

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
28 March 2002 (28.03.2002)

PCT

(10) International Publication Number  
**WO 02/24726 A2**

(51) International Patent Classification?: **C07K 14/00**

(21) International Application Number: PCT/BE01/00162

(22) International Filing Date:  
21 September 2001 (21.09.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
00870211.0 22 September 2000 (22.09.2000) EP

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(81) Designated States (*national*): AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

*without international search report and to be republished upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



**WO 02/24726 A2**

(54) Title: OLFACTORY AND PHEROMONES G-PROTEIN COUPLED RECEPTORS

(57) Abstract: The present invention is related to an olfactory or pheromone G-protein coupled receptor having an amino acid sequence which presents 95% sequence identity with the sequence SEQ ID NO. 1.

OLFACTORY AND PHEROMONES G-PROTEIN COUPLED RECEPTORSField of the invention

10 [0001] The present invention is related to newly identified, isolated and purified members of the family of olfactory ligand (odorant or any other molecule able to interact with said receptor) and the family of pheromone ligand G-protein-coupled (preferably human) receptors as  
15 well as to the various uses that can be made of said receptors.

[0002] The invention is also related to the polynucleotides sequences encoding said (preferably human) receptors.

20 [0003] The invention is further related to methods using receptor polypeptides and polynucleotides applicable to diagnostic and treatment in receptor-mediated disorders.

[0004] The invention is further related to ligand-screening methods using the receptor polypeptides and  
25 polynucleotides, to identify agonists and antagonists used as improved flavours or perfumes, as well as the prevention and/or treatment of various disorders.

[0005] The invention further encompasses agonists and antagonists based on the said olfactory and pheromones  
30 receptor polypeptides and polynucleotides and biosensors comprising said receptor polypeptides.

[0006] The invention is further related to procedures for producing the receptor polypeptides and



polynucleotides according to the invention, preferably by genetic recombinant methods.

#### Background of the invention

5 [0007] G-protein coupled receptors (GPCRs) are proteins responsible for transducing a signal within a cell. GPCRs have usually seven transmembrane domains. Upon binding of a ligand to an extra-cellular portion or fragment of a GPCR, a signal is transduced within the cell  
10 that results in a change in a biological or physiological property or behaviour of the cell. GPCRs, along with G-proteins and effectors (intracellular enzymes and membrane channels modulated by G-proteins), are the components of a modular signalling system that connects the state of intra-  
15 cellular second messengers to extra-cellular inputs.

[0008] GPCR genes and gene products are potential causative agents of disease and these receptors seem to be of critical importance to both the central nervous system and peripheral physiological processes.

20 [0009] The GPCR protein superfamily is represented in five families : Family I, receptors typified by rhodopsin and the beta2-adrenergic receptor and currently represented by over 200 unique members; Family II, the parathyroid hormone/calcitonin/secretin receptor family;  
25 Family III, the metabotropic glutamate receptor family, Family IV, the CAMP receptor family, important in the chemotaxis and development of *D. discoideum*; and Family V, the fungal mating pheromone receptor such as STE2.

[0010] G proteins represent a family of  
30 heterotrimeric proteins composed of  $\alpha$ ,  $\beta$  and  $\gamma$  subunits, that bind guanine nucleotides. These proteins are usually linked to cell surface receptors (receptors containing seven transmembrane domains).

[0011] Following ligand binding to the GPCR, a conformational change is transmitted to the G protein, which caused the  $\alpha$ -subunit to exchange a bound GDP molecule for a GTP molecule and to dissociate from the  $\beta\gamma$ -subunits.

5 [0012] The GTP-bound form of the  $\alpha$ ,  $\beta$  and  $\gamma$ -subunits typically functions as an effector-modulating moiety, leading to the production of second messengers, such as cAMP (e.g. by activation of adenylyl cyclase), diacylglycerol or inositol phosphates.

10 [0013] Greater than 20 different types of  $\alpha$ -subunits are known in humans. These subunits associate with a small pool of  $\beta$  and  $\gamma$  subunits. Examples of mammalian G proteins include Gi, Go, Gq, Gs and Gt. G proteins are described extensively in Lodish et al., *Molecular Cell*  
15 *Biology*, (Scientific American Books Inc., New York, N.Y., 1995), the contents of which are incorporated herein by reference.

[0014] Known and unknown GPCRs constitute now major targets for drug action and development.

20 [0015] More than 300 GPCRs have been cloned thus far and it is generally assumed that it exists well over 1000 such receptors. Mechanistically, approximately 50-60% of all clinically relevant drugs act by modulating the functions of various GPCRs (Cudermann et al., *J. Mol. Med.*,  
25 Vol. 73, pages 51-63, 1995).

#### Summary of the invention

[0016] The present invention is related to newly isolated and purified identified members of olfactory  
30 (odorant/ligand) and pheromones/ligands (SEQ ID NO. 1 to SEQ.ID NO. 548) and G-protein-coupled receptors as well as to polynucleotide sequences including recombinant sequences encoding said receptors, described hereafter.

[0017] The present invention is also related to non-described nucleotide and/or amino acid sequences homologous to the sequences corresponding to the receptors described hereafter.

5 [0018] Homologous sequences mean sequences which present a high sequence identity (which present an identity higher than 75%, 80%, 85%, 90% or 95%) with the complete sequence described hereafter.

[0019] Another aspect of the present invention is  
10 related to a specific active portion of said sequences or a libraries of said active portion (ligand binding) of these sequences. Said portions could be partial or deleted receptors which comprise modifications (punctual mutations) or deletions upon the complete nucleotide or amino acid  
15 sequences and which still maintain the active site(s) necessary for the binding of a specific ligand able to interact with said receptors.

[0020] Homologous sequences of the sequences according to the invention may comprise similar receptors  
20 which exist in other animal (vertebrates, preferably mammalian) or specific human populations, but which are involved in the same biochemical pathway.

[0021] Such homologous sequences may comprise addition, deletion or substitution of one or more amino  
25 acids or nucleotides, which does not substantially alter the functional characteristics of the receptor(s) according to the invention in order to form preferably an hybrid polypeptide with another transmembrane protein, suitable for rapid ligand screening.

30 [0022] Thus, the invention encompasses also a receptor and corresponding nucleotide sequence having exactly the same amino acid or nucleotide sequences (derived from olfactory neurons or olfactory epithelium) as shown in the enclosed sequence listing, as well as

molecules which differ, but which are not retaining the basic qualitative binding properties of the receptors according to the invention.

[0023] The invention is preferably related to said  
5 human receptors characterised by the complete nucleotide and amino acid sequences described hereafter, agonist and antagonist compounds or inhibitors, preferably antibodies or specific hypervariable portions thereof that bind specifically to said receptors (i.e. that have at least a  
10 10 fold greater affinity for said receptors than any other naturally occurring antibody) and specifically antibodies made by a process involving the injection of a pharmaceutically acceptable preparation of such amino acid sequence into a animal capable of producing antibodies  
15 directed against said receptor.

[0024] For instance, a monoclonal antibody to the receptor according to the invention is obtained by injecting of an expression plasmid comprising the DNA encoding said receptor into a non human mammal and than  
20 fusing mouse spleen cells with myeloma cells.

[0025] The present invention is also related to the polynucleotide according to the invention, possibly linked to other expression sequences and incorporated into a vector and host cells transformed by such vector (plasmid,  
25 virus such as an adenovirus, liposomes, cationic vesicles,...).

[0026] The present invention is also related to the recombinant, preferably human receptor according to the invention, produced by such host cells according to the  
30 method well known by the person skilled in the art.

[0027] The present invention is also related to a transgenic non human mammal comprising a partial or total deletion of the genetic sequences encoding the receptor according to the invention, preferably a non human mammal

comprising an homologous recombination "knock-out" of the nucleotide sequences (polynucleotides) according to the invention or a transgenic non human mammal overexpressing above natural level said nucleotide sequences  
5 (polynucleotides).

[0028] Said transgenic non human mammal can be obtained by methods well known by the person skilled in the art, for instance by the one described in the document WO98/20112 using classical techniques based upon the  
10 transfection of embryonic stem cells, preferably according to the method described by Carmeliet et al., Nature, Vol. 380, p. 435-439, 1996.

[0029] Preferably, said transgenic non human mammal overexpressing the polynucleotides according to the  
15 invention or portions thereof comprises said polynucleotides or active portions thereof incorporated in a DNA construct with an inducible promoter allowing its overexpression and possibly tissues and other specific regulatory elements.

20 [0030] Another aspect of the present invention is related to a method for the screening (detection and possibly recovering) of (odorant, pheromones or inhibitor thereof) compounds which are known or not known to be agonists, antagonists or inhibitors of natural compounds to  
25 the receptor according to the invention, said method comprising :

- contacting a cell or cell extract from the cell transfected with a vector expressing the polynucleotides encoding the receptor(s) according to the invention or  
30 active portion(s) thereof,
- possibly isolating a membrane fraction from the cell extract or the complete cell with a natural compound binding to said receptor under conditions permitting binding of said compound to said receptor, possibly by

the activation of a functional response (resulting in a detectable signal) and

- detecting the presence of any such compound by means of a bioassay, preferably a modification in the production of a second messenger or an increase in the receptor activity in the presence of another molecule (or compound) working as an agonist, antagonist or inhibitor of a natural known compound to the receptor according to the invention and thereby possibly recovering and determining whether said molecule (or other compound) is able to work as an agonist, antagonist or inhibitor of the natural compound to its receptor, preferably the second messenger assay comprises the measurement of intra-cellular cAMP, intracellular inositol phosphates, intra-cellular diacylglycerol concentration, arachinoid acid concentration, MAP kinase(s) or tyrosine kinase(s) pathways or intra-cellular calcium mobilisation.

[0031] The present invention is related to said molecules or compounds, preferably pheromones or flavours, including possible toxic molecules identified by said screening (identification and recovering) method and to their pharmaceutical, cosmetical and industrial (production of detergents, soap, shampoo, fragrances, odorant fingerprints, appetite surpressant compounds, etc.) use.

[0032] Such molecules or compounds may be used also for obtaining in mammal a modification of its taste and its physiological reactions to odorant, pheromones or flavours.

[0033] The present invention is also related to a (preferably nasal) spray for controlling appetite comprising the identified compounds or molecules by the method according to the invention in a suitable carrier.

[0034] Another application of such receptor is the trapping of odour by using the receptor, the cell or membrane according to the invention wherein the desired

odour ligand is absorbed by the binding of the odorant ligand to the odorant receptor.

[0035] The present invention is further related to an odour trap, using said method for trapping odour.

- 5 [0036] Preferably, the tested odorants or pheromones upon the receptor according to the invention are advantageously selected from different body secretions such as sweat, salivary, urine, vaginal secretions, sperm, etc. The tested odorants or pheromones upon the receptor are
- 10 also advantageously selected from the group of 16-androstene family, such as the 5 $\alpha$ -androst-16-en-3 $\alpha$ -ol, the 5 $\alpha$ -androst-16-en-3-one, androstadienone, a human pheromone described previously (Grosser et al., *Psychoneuroendocrinology* vol. 25, pages 289-299, 2000) and
- 15 other androstenol derivatives; the group consisting of estrene family, such as 1,3,5(10),16-estratetraen-3-ol and other estradiol derivatives described in PCT/US92/00219, PCT/US92/00220 and EP0562843 ; the group consisting of progestin family such as the human pheromone pregna-4,20-
- 20 diene-3,6-dione (Monti-Bloch et al., *J. Steroid Biochem. Mol. Biol.* Vol. 65, pages 237-242) and other progesterone derivatives , the group consisting of small fatty acids such as acetic acid, propionic acid, butyric acid, isovaleric acid and isocaproic acid that compose the
- 25 putative human vaginal pheromone copulin and such as the trans-3-methyl-2-hexanoic acid found in human sweat, cyclic organic compounds homologs to known animal pheromone such as dehydro-exo-brevicommin and such as nepetalactone, and human homologs of the murin protein aphrodisin.
- 30 [0037] Other examples of such compounds are molecules present in vapour emanating from narcotics, like cocaine, marihuana, heroin, hashish, angel dust, gasoline, natural gas, alcohol, decayed human flesh, explosives,

plastic explosives, fire arms, gun powder, toxic fumes, noxious fumes or dangerous fumes, etc.

[0038] Said molecules or compounds could be used also for promoting or suppressing chemical communication.

- 5 Every stimuli involving the emission by an organism or an exogenous source of chemical compounds able to modify the probability of response of another organism or a part of another organism.

[0039] These molecules or compounds could be used in  
10 the treatment or prevention of various disorders affecting, for instance, cell migration, cell death, cell growth, psychotic and neurological disorders, including anxiety, schizophrenia, maniac depression, depression or mound modification, etc.

- 15 [0040] These molecules or compounds could be used also for improving contraceptive medication, treatment promoting axonal growth, neural connection and nerves regeneration, in modulating male and female endocrine functions, or may effect the menstrual cycle. Indeed, it is  
20 known that several of said receptors can be present at the surface of spermatozoids and can then find contraceptive application or could be used in the treatment/prevention of sterility/fertility. these receptors are also present in various neurolfactory neurons and can improve their  
25 connection, especially upon the olfactory bulb or upon other tissue comprising said olfactory receptors.

[0041] They could be also used for the treatment or the prevention of various animal or human behaviours, such as stimulation and/or suppression of appetite,  
30 stimulation and/or suppression of motivation and sexual attraction, stimulation and/or suppression of aggressivity, stimulation and/or suppression of alarm and defence behaviours, stimulation and/or suppression of territory and



trail-marking, stimulation and/or suppression of social regulation and recognition, stimulation and/or suppression of mother-child recognition, etc.

[0042] The screening method according to the  
5 invention could be performed by well known methods to the person skilled in the art, preferably high-throughput screening, diagnostic and dosage devices based upon the method described in the International patent application WO00/02045 performed upon various solid supports such as  
10 micro-titer plates or biochips according to known techniques by the person skilled in the art.

[0043] The present invention is also related to the molecules characterized and possibly recovered by said method, including the pharmaceutical composition comprising  
15 a sufficient amount of said molecules and a pharmaceutically acceptable carrier or diluent for the preparation of a medicament in the prevention and/or the treatment of specific diseases.

[0044] A last aspect of the present invention is  
20 related to a biosensor or any technical device comprising the receptors according to the invention for the detection of the specific above-mentioned compounds or molecules.

CLAIMS

1. Pheromone G-protein coupled receptor having an amino acid sequence which presents 95% sequence identity with the SEQ ID NO. 1.
- 5 2. G-protein coupled receptor having the amino acid sequence SEQ ID NO. 1 or a specific active portion thereof.
3. Polynucleotide encoding any of the amino acid sequences of the G-protein coupled receptor according  
10 to claim 1 or 2.
4. Agonist, antagonist or inhibitor of the receptor or the polynucleotide according to any of the preceding claims.
5. Vector comprising the polynucleotide  
15 according to the claim 3.
6. Cell transformed by the vector according to the claim 5.
7. Non-human mammal comprising a partial or total deletion of the polynucleotide according to the  
20 claim 3 encoding the receptor according claim 1 or 2, preferably an non-human mammal comprising an homologous recombination "knock-out" of said polynucleotide or a transgenic non-human mammal overexpressing above natural level said polynucleotide.
- 25 8. Compound selected from the group consisting of agonist, antagonist or inhibitor of the receptor or the polynucleotide according to any of the claims 1 to 3.
9. Method for the screening (detection and  
30 possibly recovering) of compounds which are known or not known to be agonists, antagonists or inhibitors of natural compounds to the receptor according to claim 1 or 6, said method comprising :

- contacting a cell or cell extract from the cell transfected with a vector according to the claim 5,
- possibly isolating a membrane fraction from the cell extract or the complete cell with a natural compound binding to said receptor under conditions permitting binding of said compound to said receptor, possibly by the activation of a functional response, and
- detecting the presence of any such compound by means of a bioassay, preferably a modification in the production of a second messenger or an increase in the receptor activity in the presence of another molecule (or compound) working as an agonist, antagonist or inhibitor of a natural known compound to the receptor and thereby recovering and determining whether said molecule (or other compound) is able to work as an agonist, antagonist or inhibitor of the natural compound to its receptor.

10. Compound identified by the screening method according to the claim 9.

- 20 11. Pharmaceutical composition comprising an adequate pharmaceutical carrier and a sufficient amount of the receptor according to claim 1 or 2, the poly-nucleotide encoding said receptor according to the claim 3, the agonists, antagonists or inhibitors according to the claim 4 or the vectors according to the claim 5 or the cell according to the claim 6.

- 30 12. Use of the agonists, antagonists or inhibitors according to the claim 4 or the compound according to the claim 10 for the improvement, elimination or substitution of an existing taste and/or a fragrance of (or in) food and/or cosmetrical products.

13. Use of the agonists, antagonists or inhibitors according to the claim 4 or the compound according to the claim 10 for the preparation of a

medicament in the treatment and/or the prevention of a disorder affecting a mammal, including a human, such as disorders in cell migration, sterility, psychotic and neurological disorders, including anxiety, schizophrenia, 5 maniac depression, depression, for promoting axonal growth, nerve cell connection and nerve regeneration, for modulating male and female endocrine functions, hormone production and menstrual cycle, for the prevention or the treatment by stimulation of several mammal (including 10 human) behaviours, such as stimulation or suppression of appetite, stimulation or suppression of sexual motivation and sexual attraction, stimulation or suppression of aggressivity and for promoting or suppressing chemical communication between organisms.

## SEQUENCE LISTING

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Veithen, Alex

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          85          90          95

act cag gca ata ttg gtg tcc tta gac ttc ttt ggt tca cag aat act      336
Thr Gln Ala Ile Leu Val Ser Leu Asp Phe Phe Gly Ser Gln Asn Thr
          100          105          110

cag gat gat ctt agg tat aag gtc att gtc ttt tta aac aag gtg atg      384
Gln Asp Asp Leu Arg Tyr Lys Val Ile Val Phe Leu Asn Lys Val Met
          115          120          125

agg ggc ctc tcc atc tgc acc ccc tgc ctc ctg agt gtg ctc cag gcc      432
Arg Gly Leu Ser Ile Cys Thr Pro Cys Leu Leu Ser Val Leu Gln Ala
          130          135          140

atc atc agc ccc agc atc ttc tcc ttg gca aag ctc aaa cat cct tct      480
Ile Ile Ser Pro Ser Ile Phe Ser Leu Ala Lys Leu Lys His Pro Ser
          145          150          155          160

gca agt cac atc tta gga ttc ttc ctt ttc tca tgg gtc ctc aac atg      528
Ala Ser His Ile Leu Gly Phe Phe Leu Phe Ser Trp Val Leu Asn Met
          165          170          175

ttc att ggt gta atc ttc tgc tgt aca ctg cgg cta ccc cca gtg aaa      576
Phe Ile Gly Val Ile Phe Cys Cys Thr Leu Arg Leu Pro Pro Val Lys
          180          185          190

cgg ggc cag tct tct gtt tgt cat aca gca ctg ttc ctt ttt gcc cat      624
Arg Gly Gln Ser Ser Val Cys His Thr Ala Leu Phe Leu Phe Ala His
          195          200          205

gag cta cac cca cag gag act gtt ttt cac act aat gac ttt gag gga      672
Glu Leu His Pro Gln Glu Thr Val Phe His Thr Asn Asp Phe Glu Gly
          210          215          220

tgt cac ctt tat agg gtt cat ggt cct ctc aag agg cta cat ggt gat      720
Cys His Leu Tyr Arg Val His Gly Pro Leu Lys Arg Leu His Gly Asp
          225          230          235          240

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tat ttt ata cag aca ata aga ggc tat ctc agt gcc ttc aca cag cca 768  
 Tyr Phe Ile Gln Thr Ile Arg Gly Tyr Leu Ser Ala Phe Thr Gln Pro  
 245 250 255  
 gcc tgt ccc cga gtc tca cca gtg aaa aga gcc tcc cag gct atc tta 816  
 Ala Cys Pro Arg Val Ser Pro Val Lys Arg Ala Ser Gln Ala Ile Leu  
 260 265 270  
 ctg ctg gtg agt ttt gtc ttc aca tac tgg gtg gac ttt acg ttc tca 864  
 Leu Leu Val Ser Phe Val Phe Thr Tyr Trp Val Asp Phe Thr Phe Ser  
 275 280 285  
 ttt tca gga ggt gtg aca tgg ata aat gat tct ctg cta gtg tgg ctc 912  
 Phe Ser Gly Gly Val Thr Trp Ile Asn Asp Ser Leu Leu Val Trp Leu  
 290 295 300  
 cag gtt att gtg gcc aat agc tat gcc gca att agt cct ttg atg cta 960  
 Gln Val Ile Val Ala Asn Ser Tyr Ala Ala Ile Ser Pro Leu Met Leu  
 305 310 315 320  
 att tat gct gat aac caa ata ttc aag act ctg caa atg tta tgg ttt 1008  
 Ile Tyr Ala Asp Asn Gln Ile Phe Lys Thr Leu Gln Met Leu Trp Phe  
 325 330 335  
 aaa tat ttg tct cct cca aag ctc atg ttg aaa ttt aat cgc caa tgt 1056  
 Lys Tyr Leu Ser Pro Pro Lys Leu Met Leu Lys Phe Asn Arg Gln Cys  
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 Gly Ser Thr Lys Lys  
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 20 25 30  
 Pro Ser Lys Met Ile Lys Leu Pro Gly Phe Ile Thr Ile Gln Ile Phe  
 35 40 45  
 Phe Tyr Pro Gln Ala Ser Phe Gly Ile Ser Ala Asn Thr Ile Leu Leu  
 50 55 60  
 Leu Tyr His Ile Phe Thr Phe Val Phe Ser His Arg Ser Lys Ser Ile  
 65 70 75 80  
 Asp Met Ile Ile Ser His Leu Ser Leu Ile His Ile Leu Leu Leu Phe

7

Lys Tyr Leu Ser Pro Pro Lys Leu Met Leu Lys Phe Asn Arg Gln Cys  
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Gly Ser Thr Lys Lys  
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 cca aat tcc agc ttt gct ttt gta aat gaa ttt ata ctc caa ggt ttc 96  
 Pro Asn Ser Ser Phe Ala Phe Val Asn Glu Phe Ile Leu Gln Gly Phe  
 20 25 30  
 tct tgt gag tgg aca att cag atc ttc ctc ttc tca ctc ttt act aca 144  
 Ser Cys Glu Trp Thr Ile Gln Ile Phe Leu Phe Ser Leu Phe Thr Thr  
 35 40 45  
 aca tat gca ctg act ata aca ggg aat gga gcc att gct ttt gtc ctg 192  
 Thr Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala Ile Ala Phe Val Leu  
 50 55 60  
 tgg tgt gac cgg cga ctt cac act ccc atg tac atg ttc ctg gga aat 240  
 Trp Cys Asp Arg Arg Leu His Thr Pro Met Tyr Met Phe Leu Gly Asn  
 65 70 75 80  
 ttc tcc ttt tta gag ata tgg tat gtc tct tct tca gtt ccc aag atg 288  
 Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Val Pro Lys Met  
 85 90 95  
 ttg gtc aac ttc ctt tca gag aaa aaa aac atc tcc ttt gct gga tgt 336  
 Leu Val Asn Phe Leu Ser Glu Lys Lys Asn Ile Ser Phe Ala Gly Cys  
 100 105 110  
 ttt ctc cag ttt tat ttc ttc ttc tct ttg ggt aca tca gaa tgc ttg 384  
 Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Ser Glu Cys Leu  
 115 120 125  
 ctt ttg act gtg atg gcc ttt gat cag tac ctt gct atc tgc cgt ccc 432  
 Leu Leu Thr Val Met Ala Phe Asp Gln Tyr Leu Ala Ile Cys Arg Pro  
 130 135 140  
 ttg ctc tat cct aat atc atg act ggg cat ctc tat gcc aaa ctg gtc 480  
 Leu Leu Tyr Pro Asn Ile Met Thr Gly His Leu Tyr Ala Lys Leu Val  
 145 150 155 160

ata ctg tgc tgg gtt tgt gga ttt ctg tgg ttc ctg atc ccc att gtt 528  
 Ile Leu Cys Trp Val Cys Gly Phe Leu Trp Phe Leu Ile Pro Ile Val  
 165 170 175

ctc atc tct cag atg ccc ttc tgt ggc cca aac att att gac cat gtt 576  
 Leu Ile Ser Gln Met Pro Phe Cys Gly Pro Asn Ile Ile Asp His Val  
 180 185 190

gtg tgt gac cca ggg cca cga ttt gca ttg gat tgt gtt tct gcc cca 624  
 Val Cys Asp Pro Gly Pro Arg Phe Ala Leu Asp Cys Val Ser Ala Pro  
 195 200 205

aga atc caa ctg ttt tgc tac act cta agc tca tta gtt att ttt ggt 672  
 Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile Phe Gly  
 210 215 220

aac ttc ctc ttt att att gga tcc tat act ctt gtc ctg aaa gct atg 720  
 Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys Ala Met  
 225 230 235 240

ttg ggt atg cct tca agc act ggg aga cat aag gcc ttc tct acc tgt 768  
 Leu Gly Met Pro Ser Ser Thr Gly Arg His Lys Ala Phe Ser Thr Cys  
 245 250 255

ggg tct cat ttg gct gtg gta tca ctg tgc tat agc tct ctt atg gtc 816  
 Gly Ser His Leu Ala Val Val Ser Leu Cys Tyr Ser Ser Leu Met Val  
 260 265 270

atg tat gtg agc cca gga ctc gga cat tct aca ggg atg cag aaa att 864  
 Met Tyr Val Ser Pro Gly Leu Gly His Ser Thr Gly Met Gln Lys Ile  
 275 280 285

gaa act ttg ttc tat gct atg gtg acc cca ctc ttc aat ccc ctt atc 912  
 Glu Thr Leu Phe Tyr Ala Met Val Thr Pro Leu Phe Asn Pro Leu Ile  
 290 295 300

tat agc ctc cag aat aag gag ata aag gca gcc ctg agg aaa gtt ctg 960  
 Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala Leu Arg Lys Val Leu  
 305 310 315 320

ggg agt tcc aac ata atc taa 981  
 Gly Ser Ser Asn Ile Ile  
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Ser Cys Glu Trp Thr Ile Gln Ile Phe Leu Phe Ser Leu Phe Thr Thr  
 35 40 45  
 Thr Tyr Ala Leu Thr Ile Thr Gly Asn Gly Ala Ile Ala Phe Val Leu  
 50 55 60  
 Trp Cys Asp Arg Arg Leu His Thr Pro Met Tyr Met Phe Leu Gly Asn  
 65 70 75 80  
 Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Val Pro Lys Met  
 85 90 95  
 Leu Val Asn Phe Leu Ser Glu Lys Lys Asn Ile Ser Phe Ala Gly Cys  
 100 105 110  
 Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Ser Glu Cys Leu  
 115 120 125  
 Leu Leu Thr Val Met Ala Phe Asp Gln Tyr Leu Ala Ile Cys Arg Pro  
 130 135 140  
 Leu Leu Tyr Pro Asn Ile Met Thr Gly His Leu Tyr Ala Lys Leu Val  
 145 150 155 160  
 Ile Leu Cys Trp Val Cys Gly Phe Leu Trp Phe Leu Ile Pro Ile Val  
 165 170 175  
 Leu Ile Ser Gln Met Pro Phe Cys Gly Pro Asn Ile Ile Asp His Val  
 180 185 190  
 Val Cys Asp Pro Gly Pro Arg Phe Ala Leu Asp Cys Val Ser Ala Pro  
 195 200 205  
 Arg Ile Gln Leu Phe Cys Tyr Thr Leu Ser Ser Leu Val Ile Phe Gly  
 210 215 220  
 Asn Phe Leu Phe Ile Ile Gly Ser Tyr Thr Leu Val Leu Lys Ala Met  
 225 230 235 240  
 Leu Gly Met Pro Ser Ser Thr Gly Arg His Lys Ala Phe Ser Thr Cys  
 245 250 255  
 Gly Ser His Leu Ala Val Val Ser Leu Cys Tyr Ser Ser Leu Met Val  
 260 265 270  
 Met Tyr Val Ser Pro Gly Leu Gly His Ser Thr Gly Met Gln Lys Ile

275 280 285

Glu Thr Leu Phe Tyr Ala Met Val Thr Pro Leu Phe Asn Pro Leu Ile  
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Tyr Ser Leu Gln Asn Lys Glu Ile Lys Ala Ala Leu Arg Lys Val Leu  
 305 310 315 320

Gly Ser Ser Asn Ile Ile  
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ggt ttc tcc agc ctg ggg gag ctc cag ctg ctg ctt ttt gtc atc ttt	96
Gly Phe Ser Ser Leu Gly Glu Leu Gln Leu Leu Leu Phe Val Ile Phe	
20 25 30	
ctt ctc cta tac ttg aca atc ctg gtg gcc aat gtg acc atc atg gcc	144
Leu Leu Leu Tyr Leu Thr Ile Leu Val Ala Asn Val Thr Ile Met Ala	
35 40 45	
gtt att cgc ttc agc tgg act ctc cac act ccc atg tat ggc ttt cta	192
Val Ile Arg Phe Ser Trp Thr Leu His Thr Pro Met Tyr Gly Phe Leu	
50 55 60	
ttc atc ctt tca ttt tct gag tcc tgc tac act ttt gtc atc atc cct	240
Phe Ile Leu Ser Phe Ser Glu Ser Cys Tyr Thr Phe Val Ile Ile Pro	
65 70 75 80	
cag ctg ctg gtc cac ctg ctc tca gac acc aag acc atc tcc ttc atg	288
Gln Leu Leu Val His Leu Leu Ser Asp Thr Lys Thr Ile Ser Phe Met	
85 90 95	
gcc tgt gcc acc cag ctg ttc ttt ttc ctt ggc ttt gct tgc acc aac	336
Ala Cys Ala Thr Gln Leu Phe Phe Phe Leu Gly Phe Ala Cys Thr Asn	
100 105 110	
tgc ctc ctc att gct gtg atg gga tat gat cgc tat gta gca att tgt	384
Cys Leu Leu Ile Ala Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys	
115 120 125	
cac cct ctg agg tac aca ctc atc ata aac aaa agg ctg ggg ttg gag	432
His Pro Leu Arg Tyr Thr Leu Ile Ile Asn Lys Arg Leu Gly Leu Glu	

130				135				140								
ttg	att	tct	ctc	tca	gga	gcc	aca	ggt	ttc	ttt	att	gct	ttg	gtg	gcc	480
Leu	Ile	Ser	Leu	Ser	Gly	Ala	Thr	Gly	Phe	Phe	Ile	Ala	Leu	Val	Ala	
145					150					155					160	
acc	aac	ctc	att	tgt	gac	atg	cgt	ttt	tgt	ggc	ccc	aac	agg	gtt	aac	528
Thr	Asn	Leu	Ile	Cys	Asp	Met	Arg	Phe	Cys	Gly	Pro	Asn	Arg	Val	Asn	
				165					170					175		
cac	tat	ttc	tgt	gac	atg	gca	cct	gtt	atc	aag	tta	gcc	tgc	act	gac	576
His	Tyr	Phe	Cys	Asp	Met	Ala	Pro	Val	Ile	Lys	Leu	Ala	Cys	Thr	Asp	
			180					185					190			
acc	cat	gtg	aaa	gag	ctg	gct	tta	ttt	agc	ctc	agc	atc	ctg	gta	att	624
Thr	His	Val	Lys	Glu	Leu	Ala	Leu	Phe	Ser	Leu	Ser	Ile	Leu	Val	Ile	
		195					200					205				
atg	gtg	cct	ttt	ctg	tta	att	ctc	ata	tcc	tat	ggc	ttc	ata	gtt	aac	672
Met	Val	Pro	Phe	Leu	Leu	Ile	Leu	Ile	Ser	Tyr	Gly	Phe	Ile	Val	Asn	
	210					215					220					
acc	atc	ctg	aag	atc	ccc	tca	gct	gag	ggc	aag	aag	gcc	ttt	gtc	acc	720
Thr	Ile	Leu	Lys	Ile	Pro	Ser	Ala	Glu	Gly	Lys	Lys	Ala	Phe	Val	Thr	
225					230					235					240	
tgt	gcc	tca	cat	ctc	act	gtg	gtc	ttt	gtc	cac	tat	ggc	tgt	gcc	tct	768
Cys	Ala	Ser	His	Leu	Thr	Val	Val	Phe	Val	His	Tyr	Gly	Cys	Ala	Ser	
				245					250					255		
atc	atc	tat	ctg	cgg	ccc	aag	tcc	aag	tct	gcc	tca	gac	aag	gat	cag	816
Ile	Ile	Tyr	Leu	Arg	Pro	Lys	Ser	Lys	Ser	Ala	Ser	Asp	Lys	Asp	Gln	
			260					265					270			
ttg	gtg	gca	gtg	acc	tac	aca	gtg	gtt	act	ccc	tta	ctt	aat	cct	ctt	864
Leu	Val	Ala	Val	Thr	Tyr	Thr	Val	Val	Thr	Pro	Leu	Leu	Asn	Pro	Leu	
		275					280					285				
gtc	tac	agt	ctg	agg	aac	aaa	gag	gta	aaa	act	gca	ttg	aaa	aga	gtt	912
Val	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys	Thr	Ala	Leu	Lys	Arg	Val	
	290					295					300					
ctt	gga	atg	cct	gtg	gca	acc	aag	atg	agc	taa						945
Leu	Gly	Met	Pro	Val	Ala	Thr	Lys	Met	Ser							
305					310											

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<210>      8
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<213>     Homo Sapiens
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Met Arg Gly Phe Asn Lys Thr Thr Val Val Thr Gln Phe Ile Leu Val  
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Gly Phe Ser Ser Leu Gly Glu Leu Gln Leu Leu Leu Phe Val Ile Phe  
20 25 30



Leu Leu Leu Tyr Leu Thr Ile Leu Val Ala Asn Val Thr Ile Met Ala  
 35 40 45

Val Ile Arg Phe Ser Trp Thr Leu His Thr Pro Met Tyr Gly Phe Leu  
 50 55 60

Phe Ile Leu Ser Phe Ser Glu Ser Cys Tyr Thr Phe Val Ile Ile Pro  
 65 70 75 80

Gln Leu Leu Val His Leu Leu Ser Asp Thr Lys Thr Ile Ser Phe Met  
 85 90 95

Ala Cys Ala Thr Gln Leu Phe Phe Phe Leu Gly Phe Ala Cys Thr Asn  
 100 105 110

Cys Leu Leu Ile Ala Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Thr Leu Ile Ile Asn Lys Arg Leu Gly Leu Glu  
 130 135 140

Leu Ile Ser Leu Ser Gly Ala Thr Gly Phe Phe Ile Ala Leu Val Ala  
 145 150 155 160

Thr Asn Leu Ile Cys Asp Met Arg Phe Cys Gly Pro Asn Arg Val Asn  
 165 170 175

His Tyr Phe Cys Asp Met Ala Pro Val Ile Lys Leu Ala Cys Thr Asp  
 180 185 190

Thr His Val Lys Glu Leu Ala Leu Phe Ser Leu Ser Ile Leu Val Ile  
 195 200 205

Met Val Pro Phe Leu Leu Ile Leu Ile Ser Tyr Gly Phe Ile Val Asn  
 210 215 220

Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Lys Lys Ala Phe Val Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Val Val Phe Val His Tyr Gly Cys Ala Ser  
 245 250 255

Ile Ile Tyr Leu Arg Pro Lys Ser Lys Ser Ala Ser Asp Lys Asp Gln  
 260 265 270

Leu Val Ala Val Thr Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Leu  
 275 280 285

Val Tyr Ser Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Arg Val  
 290 295 300

Leu Gly Met Pro Val Ala Thr Lys Met Ser  
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 1 5 10 15  
 ttc tca gat cga cct tgg ctg gag ttt cca ctc ctt gtg gtc ttc ttg 96  
 Phe Ser Asp Arg Pro Trp Leu Glu Phe Pro Leu Leu Val Val Phe Leu  
 20 25 30  
 att tct tac act gtg acc atc ttt ggc aat ctg acc att att cta gtg 144  
 Ile Ser Tyr Thr Val Thr Ile Phe Gly Asn Leu Thr Ile Ile Leu Val  
 35 40 45  
 tca cgc ctg gac acc aaa ctt cat acc ccc atg tat ttt ttt ctt acc 192  
 Ser Arg Leu Asp Thr Lys Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
 50 55 60  
 aat cta tca ctc ctg gat ctt tgt tac acc aca tgt aca gtc cca caa 240  
 Asn Leu Ser Leu Leu Asp Leu Cys Tyr Thr Thr Cys Thr Val Pro Gln  
 65 70 75 80  
 atg cta gta aat tta tgc agc atc agg aaa gta atc agt tat cgt ggc 288  
 Met Leu Val Asn Leu Cys Ser Ile Arg Lys Val Ile Ser Tyr Arg Gly  
 85 90 95  
 tgt gta gcc cag ctt ttc ata ttt ctg gcc ttg ggg gct act gaa tat 336  
 Cys Val Ala Gln Leu Phe Ile Phe Leu Ala Leu Gly Ala Thr Glu Tyr  
 100 105 110  
 ctt ctc ctg gcc gtc atg tcc ttt gat agg ttt gta gct att tgt cgg 384  
 Leu Leu Leu Ala Val Met Ser Phe Asp Arg Phe Val Ala Ile Cys Arg  
 115 120 125  
 cct ctc cat tac tca gtt atc atg cac cag aga ctc tgc ctc cag ttg 432  
 Pro Leu His Tyr Ser Val Ile Met His Gln Arg Leu Cys Leu Gln Leu  
 130 135 140  
 gca gct gca tcc tgg gtt act ggt ttt agt aac tca gtg tgg ttg tct 480

Ala Ala Ala Ser Trp Val Thr Gly Phe Ser Asn Ser Val Trp Leu Ser  
 145 150 155 160

acc ctg act ctc cag ctg cca ctc tgt gac ccc tat gtg ata gat cac 528  
 Thr Leu Thr Leu Gln Leu Pro Leu Cys Asp Pro Tyr Val Ile Asp His  
 165 170 175

ttt ctc tgt gaa gtc cct gca ctg ctc aag tta tct tgt gtt gag aca 576  
 Phe Leu Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Val Glu Thr  
 180 185 190

aca gca aat gag gct gaa cta ttc ctt gtc agt gag ctc ttc cat cta 624  
 Thr Ala Asn Glu Ala Glu Leu Phe Leu Val Ser Glu Leu Phe His Leu  
 195 200 205

ata ccc ctg aca ctc atc ctt ata tca tat gct ttt att gtc cga gca 672  
 Ile Pro Leu Thr Leu Ile Leu Ile Ser Tyr Ala Phe Ile Val Arg Ala  
 210 215 220

gta ttg agg ata cag tct gct gaa ggt cga caa aaa gca ttt ggg aca 720  
 Val Leu Arg Ile Gln Ser Ala Glu Gly Arg Gln Lys Ala Phe Gly Thr  
 225 230 235 240

tgt ggt tcc cat cta att gtg gtg tct ctt ttt tat agt aca gcc gtc 768  
 Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Ser Thr Ala Val  
 245 250 255

tct gtg tac ctg caa cca cct tcg ccc agc tcc aag gac caa gga aag 816  
 Ser Val Tyr Leu Gln Pro Pro Ser Pro Ser Ser Lys Asp Gln Gly Lys  
 260 265 270

atg gtt tct ctc ttc tat gga atc att gca ccc atg ctg aat ccc ctt 864  
 Met Val Ser Leu Phe Tyr Gly Ile Ile Ala Pro Met Leu Asn Pro Leu  
 275 280 285

ata tat aca ctt agg aac aag gag gta aag gaa ggc ttt aaa agg ttg 912  
 Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Glu Gly Phe Lys Arg Leu  
 290 295 300

gtt gca aga gtc ttc tta atc aag aaa taa 942  
 Val Ala Arg Val Phe Leu Ile Lys Lys  
 305 310

&lt;210&gt; 10

&lt;211&gt; 313

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 10

Met Asn Trp Val Asn Asp Ser Ile Ile Gln Glu Phe Ile Leu Leu Gly  
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Phe Ser Asp Arg Pro Trp Leu Glu Phe Pro Leu Leu Val Val Phe Leu  
 20 25 30

Ile Ser Tyr Thr Val Thr Ile Phe Gly Asn Leu Thr Ile Ile Leu Val  
 35 40 45

Ser Arg Leu Asp Thr Lys Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
 50 55 60

Asn Leu Ser Leu Leu Asp Leu Cys Tyr Thr Thr Cys Thr Val Pro Gln  
 65 70 75 80

Met Leu Val Asn Leu Cys Ser Ile Arg Lys Val Ile Ser Tyr Arg Gly  
 85 90 95

Cys Val Ala Gln Leu Phe Ile Phe Leu Ala Leu Gly Ala Thr Glu Tyr  
 100 105 110

Leu Leu Leu Ala Val Met Ser Phe Asp Arg Phe Val Ala Ile Cys Arg  
 115 120 125

Pro Leu His Tyr Ser Val Ile Met His Gln Arg Leu Cys Leu Gln Leu  
 130 135 140

Ala Ala Ala Ser Trp Val Thr Gly Phe Ser Asn Ser Val Trp Leu Ser  
 145 150 155 160

Thr Leu Thr Leu Gln Leu Pro Leu Cys Asp Pro Tyr Val Ile Asp His  
 165 170 175

Phe Leu Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Val Glu Thr  
 180 185 190

Thr Ala Asn Glu Ala Glu Leu Phe Leu Val Ser Glu Leu Phe His Leu  
 195 200 205

Ile Pro Leu Thr Leu Ile Leu Ile Ser Tyr Ala Phe Ile Val Arg Ala  
 210 215 220

Val Leu Arg Ile Gln Ser Ala Glu Gly Arg Gln Lys Ala Phe Gly Thr  
 225 230 235 240

Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Ser Thr Ala Val  
 245 250 255

Ser Val Tyr Leu Gln Pro Pro Ser Pro Ser Ser Lys Asp Gln Gly Lys  
 260 265 270

Met Val Ser Leu Phe Tyr Gly Ile Ile Ala Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Glu Gly Phe Lys Arg Leu  
 290 295 300

Val Ala Arg Val Phe Leu Ile Lys Lys  
 305 310

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 ttt tct ggc tac cca gcc ctg gag cat ctg ctc ttc cct ctg tgc tca 96  
 Phe Ser Gly Tyr Pro Ala Leu Glu His Leu Leu Phe Pro Leu Cys Ser  
 20 25 30  
 gcc atg tac ctg gtg acc ctc ctg ggg aac aca gcc atc atg gcg gtg 144  
 Ala Met Tyr Leu Val Thr Leu Leu Gly Asn Thr Ala Ile Met Ala Val  
 35 40 45  
 agc gtg cta gat atc cac ctg cac acg ccc gtg tac ttc ttc ctg ggc 192  
 Ser Val Leu Asp Ile His Leu His Thr Pro Val Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tct acc ctg gac atc tgc tac acg ccc acc ttt gtg cct ctg 240  
 Asn Leu Ser Thr Leu Asp Ile Cys Tyr Thr Pro Thr Phe Val Pro Leu  
 65 70 75 80  
 atg ctg gtc cac ctc ctg tca tcc cgg aag acc atc tcc ttt gct gtc 288  
 Met Leu Val His Leu Leu Ser Ser Arg Lys Thr Ile Ser Phe Ala Val  
 85 90 95  
 tgt gcc atc cag atg tgt ctg agc ctg tcc acg ggc tcc acg gag tgc 336  
 Cys Ala Ile Gln Met Cys Leu Ser Leu Ser Thr Gly Ser Thr Glu Cys  
 100 105 110  
 ctg cta ctg gcc atc acg gcc tat gac cgc tac ctg gcc atc tgc cag 384  
 Leu Leu Leu Ala Ile Thr Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gln  
 115 120 125  
 cca ctc agg tac cac gtg ctc atg agc cac cgg ctc tgc gtg ctg ctg 432  
 Pro Leu Arg Tyr His Val Leu Met Ser His Arg Leu Cys Val Leu Leu  
 130 135 140  
 atg gga gct gcc tgg gtc ctc tgc ctc ctc aag tcg gtg act gag atg 480  
 Met Gly Ala Ala Trp Val Leu Cys Leu Leu Lys Ser Val Thr Glu Met  
 145 150 155 160

gtc atc tcc atg agg ctg ccc ttc tgt ggc cac cac gtg gtc agt cac 528  
 Val Ile Ser Met Arg Leu Pro Phe Cys Gly His His Val Val Ser His  
 165 170 175  
 ttc acc tgc aag atc ctg gca gtg ctg aag ctg gca tgc ggc aac acg 576  
 Phe Thr Cys Lys Ile Leu Ala Val Leu Lys Leu Ala Cys Gly Asn Thr  
 180 185 190  
 tcg gtc agc gaa gac ttc ctg ctg gcg ggc tcc atc ctg ctg ctg cct 624  
 Ser Val Ser Glu Asp Phe Leu Leu Ala Gly Ser Ile Leu Leu Leu Pro  
 195 200 205  
 gta ccc ctg gca ttc atc tgc ctg tcc tac ttg ctc atc ctg gcc acc 672  
 Val Pro Leu Ala Phe Ile Cys Leu Ser Tyr Leu Leu Ile Leu Ala Thr  
 210 215 220  
 atc ctg agg gtg ccc tcg gcc gcc agg tgc tgc aaa gcc ttc tcc acc 720  
 Ile Leu Arg Val Pro Ser Ala Ala Arg Cys Cys Lys Ala Phe Ser Thr  
 225 230 235 240  
 tgc ttg gca cac ctg gct gta gtg ctg ctt ttc tac ggc acc atc atc 768  
 Cys Leu Ala His Leu Ala Val Val Leu Leu Phe Tyr Gly Thr Ile Ile  
 245 250 255  
 ttc atg tac ttg aag ccc aag agt aag gaa gcc cac atc tct gat gag 816  
 Phe Met Tyr Leu Lys Pro Lys Ser Lys Glu Ala His Ile Ser Asp Glu  
 260 265 270  
 gtc ttc aca gtc ctc tat gcc atg gtc acg acc atg ctg aac ccc acc 864  
 Val Phe Thr Val Leu Tyr Ala Met Val Thr Thr Met Leu Asn Pro Thr  
 275 280 285  
 atc tac agc ctg agg aac aag gag gtg aag gag gcc gcc agg aag gtg 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Ala Arg Lys Val  
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 Trp Gly Arg Ser Arg Ala Ser Arg  
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Phe Ser Gly Tyr Pro Ala Leu Glu His Leu Leu Phe Pro Leu Cys Ser  
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Ala Met Tyr Leu Val Thr Leu Leu Gly Asn Thr Ala Ile Met Ala Val  
 35 40 45

Ser Val Leu Asp Ile His Leu His Thr Pro Val Tyr Phe Phe Leu Gly

50	55	60
Asn Leu Ser Thr Leu Asp Ile Cys Tyr Thr Pro Thr Phe Val Pro Leu		
65	70	75 80
Met Leu Val His Leu Leu Ser Ser Arg Lys Thr Ile Ser Phe Ala Val		
	85	90 95
Cys Ala Ile Gln Met Cys Leu Ser Leu Ser Thr Gly Ser Thr Glu Cys		
	100	105 110
Leu Leu Leu Ala Ile Thr Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gln		
	115	120 125
Pro Leu Arg Tyr His Val Leu Met Ser His Arg Leu Cys Val Leu Leu		
	130	135 140
Met Gly Ala Ala Trp Val Leu Cys Leu Leu Lys Ser Val Thr Glu Met		
145	150	155 160
Val Ile Ser Met Arg Leu Pro Phe Cys Gly His His Val Val Ser His		
	165	170 175
Phe Thr Cys Lys Ile Leu Ala Val Leu Lys Leu Ala Cys Gly Asn Thr		
	180	185 190
Ser Val Ser Glu Asp Phe Leu Leu Ala Gly Ser Ile Leu Leu Leu Pro		
	195	200 205
Val Pro Leu Ala Phe Ile Cys Leu Ser Tyr Leu Leu Ile Leu Ala Thr		
	210	215 220
Ile Leu Arg Val Pro Ser Ala Ala Arg Cys Cys Lys Ala Phe Ser Thr		
225	230	235 240
Cys Leu Ala His Leu Ala Val Val Leu Leu Phe Tyr Gly Thr Ile Ile		
	245	250 255
Phe Met Tyr Leu Lys Pro Lys Ser Lys Glu Ala His Ile Ser Asp Glu		
	260	265 270
Val Phe Thr Val Leu Tyr Ala Met Val Thr Thr Met Leu Asn Pro Thr		
	275	280 285
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Ala Arg Lys Val		
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Trp Gly Arg Ser Arg Ala Ser Arg  
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agc agc agc agc ttc cta cgg acc ctg ctg gag ccc cag ctc gga tca 96  
Ser Ser Ser Ser Phe Leu Arg Thr Leu Leu Glu Pro Gln Leu Gly Ser  
20 25 30  
gcc ctt ctg aca gca atg aat gct tcg tgc tgc ctg ccc tct gtt cag 144  
Ala Leu Leu Thr Ala Met Asn Ala Ser Cys Cys Leu Pro Ser Val Gln  
35 40 45  
cca aca ctg cct aat ggc tcg gag cac ctc caa gcc cct ttc ttc agc 192  
Pro Thr Leu Pro Asn Gly Ser Glu His Leu Gln Ala Pro Phe Phe Ser  
50 55 60  
aac cag agc agc agc gcc ttc tgt gag cag gtc ttc atc aag ccc gag 240  
Asn Gln Ser Ser Ser Ala Phe Cys Glu Gln Val Phe Ile Lys Pro Glu  
65 70 75 80  
gtt ttc ctg tct ctg ggc atc gtc agt ctg ctg gaa aac atc ctg gtt 288  
Val Phe Leu Ser Leu Gly Ile Val Ser Leu Leu Glu Asn Ile Leu Val  
85 90 95  
atc ctg gcc gtg gtc agg aac ggc aac ctg cac tcc ccg atg tac ttc 336  
Ile Leu Ala Val Val Arg Asn Gly Asn Leu His Ser Pro Met Tyr Phe  
100 105 110  
ttt ctc tgc agc ctg gcg gtg gcc gac atg ctg gta agt gtg tcc aat 384  
Phe Leu Cys Ser Leu Ala Val Ala Asp Met Leu Val Ser Val Ser Asn  
115 120 125  
gcc ctg gag acc atc atg atc gcc atc gtc cac agc gac tac ctg acc 432  
Ala Leu Glu Thr Ile Met Ile Ala Ile Val His Ser Asp Tyr Leu Thr  
130 135 140  
ttc gag gac cag ttt atc cag cac atg gac aac atc ttc gac tcc atg 480  
Phe Glu Asp Gln Phe Ile Gln His Met Asp Asn Ile Phe Asp Ser Met  
145 150 155 160  
atc tgc atc tcc ctg gtg gcc tcc atc tgc aac ctc ctg gcc atc gcc 528  
Ile Cys Ile Ser Leu Val Ala Ser Ile Cys Asn Leu Leu Ala Ile Ala  
165 170 175



gtc gac agg tac gtc acc atc ttt tac gcg ctc cgc tac cac agc atc 576  
 Val Asp Arg Tyr Val Thr Ile Phe Tyr Ala Leu Arg Tyr His Ser Ile  
 180 185 190

atg acc gtg agg aag gcc ctc acc ttg atc gtg gcc atc tgg gtc tgc 624  
 Met Thr Val Arg Lys Ala Leu Thr Leu Ile Val Ala Ile Trp Val Cys  
 195 200 205

tgc ggc gtc tgt ggc gtg gtg ttc atc gtc tac tcg gag agc aaa atg 672  
 Cys Gly Val Cys Gly Val Val Phe Ile Val Tyr Ser Glu Ser Lys Met  
 210 215 220

gtc att gtg tgc ctc atc acc atg ttc ttc gcc atg atg ctc ctc atg 720  
 Val Ile Val Cys Leu Ile Thr Met Phe Phe Ala Met Met Leu Leu Met  
 225 230 235 240

ggc acc ctc tac gtg cac atg ttc ctc ttt gcg cgg ctg cac gtc aag 768  
 Gly Thr Leu Tyr Val His Met Phe Leu Phe Ala Arg Leu His Val Lys  
 245 250 255

cgc ata gca gca ctg cca cct gcc gac ggg gtg gcc cca cag caa cac 816  
 Arg Ile Ala Ala Leu Pro Pro Ala Asp Gly Val Ala Pro Gln Gln His  
 260 265 270

tca tgc atg aag ggg gca gtc acc atc acc att ctc ctg ggc gtg ttc 864  
 Ser Cys Met Lys Gly Ala Val Thr Ile Thr Ile Leu Leu Gly Val Phe  
 275 280 285

atc ttc tgc tgg gcc ccc ttc ttc ctc cac ctg gtc ctc atc atc acc 912  
 Ile Phe Cys Trp Ala Pro Phe Phe Leu His Leu Val Leu Ile Ile Thr  
 290 295 300

tgc ccc acc aac ccc tac tgc atc tgc tac act gcc cac ttc aac acc 960  
 Cys Pro Thr Asn Pro Tyr Cys Ile Cys Tyr Thr Ala His Phe Asn Thr  
 305 310 315 320

tac ctg gtc ctc atc atg tgc aac tcc gtc atc gac cca ctc atc tac 1008  
 Tyr Leu Val Leu Ile Met Cys Asn Ser Val Ile Asp Pro Leu Ile Tyr  
 325 330 335

gct ttc cgg agc ctg gaa ttg cgc aac acc ttt agg gag att ctc tgt 1056  
 Ala Phe Arg Ser Leu Glu Leu Arg Asn Thr Phe Arg Glu Ile Leu Cys  
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ggc tgc aac ggc atg aac ttg gga tag 1083  
 Gly Cys Asn Gly Met Asn Leu Gly  
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 <213> Homo Sapiens

<400> 14

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 Ala Leu Leu Thr Ala Met Asn Ala Ser Cys Cys Leu Pro Ser Val Gln  
 35 40 45  
 Pro Thr Leu Pro Asn Gly Ser Glu His Leu Gln Ala Pro Phe Phe Ser  
 50 55 60  
 Asn Gln Ser Ser Ser Ala Phe Cys Glu Gln Val Phe Ile Lys Pro Glu  
 65 70 75 80  
 Val Phe Leu Ser Leu Gly Ile Val Ser Leu Leu Glu Asn Ile Leu Val  
 85 90 95  
 Ile Leu Ala Val Val Arg Asn Gly Asn Leu His Ser Pro Met Tyr Phe  
 100 105 110  
 Phe Leu Cys Ser Leu Ala Val Ala Asp Met Leu Val Ser Val Ser Asn  
 115 120 125  
 Ala Leu Glu Thr Ile Met Ile Ala Ile Val His Ser Asp Tyr Leu Thr  
 130 135 140  
 Phe Glu Asp Gln Phe Ile Gln His Met Asp Asn Ile Phe Asp Ser Met  
 145 150 155 160  
 Ile Cys Ile Ser Leu Val Ala Ser Ile Cys Asn Leu Leu Ala Ile Ala  
 165 170 175  
 Val Asp Arg Tyr Val Thr Ile Phe Tyr Ala Leu Arg Tyr His Ser Ile  
 180 185 190  
 Met Thr Val Arg Lys Ala Leu Thr Leu Ile Val Ala Ile Trp Val Cys  
 195 200 205  
 Cys Gly Val Cys Gly Val Val Phe Ile Val Tyr Ser Glu Ser Lys Met  
 210 215 220  
 Val Ile Val Cys Leu Ile Thr Met Phe Phe Ala Met Met Leu Leu Met  
 225 230 235 240  
 Gly Thr Leu Tyr Val His Met Phe Leu Phe Ala Arg Leu His Val Lys  
 245 250 255  
 Arg Ile Ala Ala Leu Pro Pro Ala Asp Gly Val Ala Pro Gln Gln His

260					265					270					
Ser	Cys	Met	Lys	Gly	Ala	Val	Thr	Ile	Thr	Ile	Leu	Leu	Gly	Val	Phe
		275					280					285			
Ile	Phe	Cys	Trp	Ala	Pro	Phe	Phe	Leu	His	Leu	Val	Leu	Ile	Ile	Thr
	290					295					300				
Cys	Pro	Thr	Asn	Pro	Tyr	Cys	Ile	Cys	Tyr	Thr	Ala	His	Phe	Asn	Thr
305					310					315					320
Tyr	Leu	Val	Leu	Ile	Met	Cys	Asn	Ser	Val	Ile	Asp	Pro	Leu	Ile	Tyr
				325					330					335	
Ala	Phe	Arg	Ser	Leu	Glu	Leu	Arg	Asn	Thr	Phe	Arg	Glu	Ile	Leu	Cys
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Gly	Cys	Asn	Gly	Met	Asn	Leu	Gly								
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<213> Homo Sapiens

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Met	Lys	Gly	Ala	Asn	Leu	Ser	Gln	Gly	Met	Glu	Phe	Glu	Leu	Leu	Gly	
1				5					10					15		
ctc	acc	act	gac	ccc	cag	ctc	cag	agg	ctg	ctc	ttc	gtg	gtg	ttc	ctg	96
Leu	Thr	Thr	Asp	Pro	Gln	Leu	Gln	Arg	Leu	Leu	Phe	Val	Val	Phe	Leu	
			20					25					30			
ggc	atg	tac	aca	gcc	act	ctg	ctg	ggg	aac	ctg	gtc	atg	ttc	ctc	ctg	144
Gly	Met	Tyr	Thr	Ala	Thr	Leu	Leu	Gly	Asn	Leu	Val	Met	Phe	Leu	Leu	
		35					40					45				
atc	cat	gtg	agt	gcc	acc	ctg	cac	aca	ccc	atg	tac	tcc	ctc	ctg	aag	192
Ile	His	Val	Ser	Ala	Thr	Leu	His	Thr	Pro	Met	Tyr	Ser	Leu	Leu	Lys	
	50					55					60					
agc	ctc	tcc	ttc	ttg	gat	ttc	tgc	tac	tcc	tcc	acg	gtt	gtg	ccc	cag	240
Ser	Leu	Ser	Phe	Leu	Asp	Phe	Cys	Tyr	Ser	Ser	Thr	Val	Val	Pro	Gln	
65					70					75				80		
acc	ctg	gtg	aac	ttc	ttg	gcc	aag	agg	aaa	gtg	atc	tct	tat	ttt	ggc	288
Thr	Leu	Val	Asn	Phe	Leu	Ala	Lys	Arg	Lys	Val	Ile	Ser	Tyr	Phe	Gly	

85										90					95					
tgc	atg	act	cag	atg	ttc	ttc	tat	gcg	ggg	ttt	gcc	acc	agt	gag	tgc	336				
Cys	Met	Thr	Gln	Met	Phe	Phe	Tyr	Ala	Gly	Phe	Ala	Thr	Ser	Glu	Cys					
			100					105					110							
tat	ctc	atc	gct	gcc	atg	gcc	tat	gac	cgc	tat	gcc	gct	att	tgt	aac	384				
Tyr	Leu	Ile	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Ile	Cys	Asn					
		115					120					125								
ccc	ctg	ctc	tac	tca	acc	atc	atg	tct	cct	gag	gtc	tgt	gcc	tcg	ctg	432				
Pro	Leu	Leu	Tyr	Ser	Thr	Ile	Met	Ser	Pro	Glu	Val	Cys	Ala	Ser	Leu					
	130					135					140									
att	gtg	ggc	tcc	tac	agt	gca	gga	ttc	ctc	aat	tct	ctt	atc	cac	act	480				
Ile	Val	Gly	Ser	Tyr	Ser	Ala	Gly	Phe	Leu	Asn	Ser	Leu	Ile	His	Thr					
145					150					155					160					
ggc	tgt	atc	ttt	agt	ctg	aaa	ttc	tgc	ggg	gct	cat	gtc	gtc	act	cac	528				
Gly	Cys	Ile	Phe	Ser	Leu	Lys	Phe	Cys	Gly	Ala	His	Val	Val	Thr	His					
				165				170						175						
ttc	ttc	tgt	gat	ggg	cca	ccc	atc	ctg	tcc	ttg	tct	tgt	gta	gac	acc	576				
Phe	Phe	Cys	Asp	Gly	Pro	Pro	Ile	Leu	Ser	Leu	Ser	Cys	Val	Asp	Thr					
			180					185						190						
tca	ctg	tgt	gag	atc	ctg	ctc	ttc	att	ttt	gct	ggg	ttc	aac	ctt	ttg	624				
Ser	Leu	Cys	Glu	Ile	Leu	Leu	Phe	Ile	Phe	Ala	Gly	Phe	Asn	Leu	Leu					
		195					200					205								
agc	tgc	acc	ctc	acc	atc	ttg	atc	tcc	tac	ttc	tta	att	ctc	aac	acc	672				
Ser	Cys	Thr	Leu	Thr	Ile	Leu	Ile	Ser	Tyr	Phe	Leu	Ile	Leu	Asn	Thr					
	210					215					220									
atc	ctg	aaa	atg	agc	tcg	gcc	cag	ggc	agg	ttt	aag	gca	ttt	tcc	acc	720				
Ile	Leu	Lys	Met	Ser	Ser	Ala	Gln	Gly	Arg	Phe	Lys	Ala	Phe	Ser	Thr					
225					230				235					240						
tgt	gca	tcc	cac	ctc	act	gcc	atc	tgc	ctc	ttc	ttt	ggc	aca	aca	ctt	768				
Cys	Ala	Ser	His	Leu	Thr	Ala	Ile	Cys	Leu	Phe	Phe	Gly	Thr	Thr	Leu					
				245				250						255						
ttt	atg	tac	ctg	cgc	ccc	agg	tcc	agc	tac	tcc	ttg	acc	cag	gac	cgc	816				
Phe	Met	Tyr	Leu	Arg	Pro	Arg	Ser	Ser	Tyr	Ser	Leu	Thr	Gln	Asp	Arg					
			260					265					270							
aca	gtt	gct	gtc	atc	tac	aca	gtg	gtg	atc	cca	gtg	ctg	aac	ccc	ctc	864				
Thr	Val	Ala	Val	Ile	Tyr	Thr	Val	Val	Ile	Pro	Val	Leu	Asn	Pro	Leu					
		275					280					285								
atg	tac	tct	ttg	aga	aac	aag	gat	gtg	aag	aaa	gct	tta	ata	aag	gtt	912				
Met	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Lys	Ala	Leu	Ile	Lys	Val					
	290					295					300									
tgg	ggg	agg	aaa	aca	atg	gaa	tga									936				
Trp	Gly	Arg	Lys	Thr	Met	Glu														
305					310															
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&lt;213&gt; Homo Sapiens

&lt;400&gt; 16

Met Lys Gly Ala Asn Leu Ser Gln Gly Met Glu Phe Glu Leu Leu Gly  
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Leu Thr Thr Asp Pro Gln Leu Gln Arg Leu Leu Phe Val Val Phe Leu  
 20 25 30

Gly Met Tyr Thr Ala Thr Leu Leu Gly Asn Leu Val Met Phe Leu Leu  
 35 40 45

Ile His Val Ser Ala Thr Leu His Thr Pro Met Tyr Ser Leu Leu Lys  
 50 55 60

Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Thr Val Val Pro Gln  
 65 70 75 80

Thr Leu Val Asn Phe Leu Ala Lys Arg Lys Val Ile Ser Tyr Phe Gly  
 85 90 95

Cys Met Thr Gln Met Phe Phe Tyr Ala Gly Phe Ala Thr Ser Glu Cys  
 100 105 110

Tyr Leu Ile Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn  
 115 120 125

Pro Leu Leu Tyr Ser Thr Ile Met Ser Pro Glu Val Cys Ala Ser Leu  
 130 135 140

Ile Val Gly Ser Tyr Ser Ala Gly Phe Leu Asn Ser Leu Ile His Thr  
 145 150 155 160

Gly Cys Ile Phe Ser Leu Lys Phe Cys Gly Ala His Val Val Thr His  
 165 170 175

Phe Phe Cys Asp Gly Pro Pro Ile Leu Ser Leu Ser Cys Val Asp Thr  
 180 185 190

Ser Leu Cys Glu Ile Leu Leu Phe Ile Phe Ala Gly Phe Asn Leu Leu  
 195 200 205

Ser Cys Thr Leu Thr Ile Leu Ile Ser Tyr Phe Leu Ile Leu Asn Thr  
 210 215 220

Ile Leu Lys Met Ser Ser Ala Gln Gly Arg Phe Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Ile Cys Leu Phe Phe Gly Thr Thr Leu  
 245 250 255

Phe Met Tyr Leu Arg Pro Arg Ser Ser Tyr Ser Leu Thr Gln Asp Arg  
 260 265 270

Thr Val Ala Val Ile Tyr Thr Val Val Ile Pro Val Leu Asn Pro Leu  
 275 280 285

Met Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Ile Lys Val  
 290 295 300

Trp Gly Arg Lys Thr Met Glu  
 305 310

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 tta act gaa caa gca gag ctt cag ctg ccc ctc ttc tgc ctc ttc tta 96  
 Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu  
 20 25 30  
 gga att tac aca gtt act gtg gtg gga aac ctc agc atg atc tca att 144  
 Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile  
 35 40 45  
 att agg ctg aat cgt caa ctt cat acc ccc atg tac tat ttc ctg agt 192  
 Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60  
 agt ttg tct ttt tta gat ttc tgc tat tct tct gtc att acc cct aaa 240  
 Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
 65 70 75 80  
 atg cta tca ggg ttt tta tgc aga gat aga tcc atc tcc tat tct gga 288  
 Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly  
 85 90 95  
 tgc atg att cag ctg ttt ttt ttc tgt gtt tgt gtt att tct gaa tgc 336

Cys Met Ile Gln Leu Phe Phe Phe Cys Val Cys Val Ile Ser Glu Cys	
100 105 110	
tac atg ctg gca gcc atg gcc tgc gat cgc tac gtg gcc atc tgc agc	384
Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	
cca ctg ctc tac agg gtc atc atg tcc cct agg gtc tgt tct ctg ctg	432
Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu	
130 135 140	
gtg gct gct gtc ttc tca gta ggt ttc act gat gct gtg atc cat gga	480
Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly	
145 150 155 160	
ggg tgt ata ctc agg ttg tct ttc tgt gga tca aac atc att aaa cat	528
Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His	
165 170 175	
tat ttc tgt gac att gtc cct ctt att aaa ctc tcc tgc tcc agc act	576
Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr	
180 185 190	
tat att gat gag ctt ttg att ttt gtc att ggt gga ttt aac atg gtg	624
Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val	
195 200 205	
gcc aca agc cta aca atc att att tca tat gct ttt atc ctc acc agc	672
Ala Thr Ser Leu Thr Ile Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser	
210 215 220	
atc ctg cgc atc cac tct aaa aag ggc agg tgc aaa gcg ttt agc acc	720
Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr	
225 230 235 240	
tgt agc tcc cac ctg aca gct gtt ctt atg ttt tat ggg tct ctg atg	768
Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met	
245 250 255	
tcc atg tat ctc aaa cct gct tct agc agt tca ctc acc cag gag aaa	816
Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Ser Leu Thr Gln Glu Lys	
260 265 270	
gta tcc tca gta ttt tat acc act gtg att ctc atg ttg aat ccc ttg	864
Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu	
275 280 285	
ata tat agt ctg agg aac aat gaa gta aga aat gct ctg atg aaa ctt	912
Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu	
290 295 300	
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Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly	
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<211> 314	
<212> PRT	
<213> Homo Sapiens	

&lt;400&gt; 18

Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly  
 1 5 10 15

Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu  
 20 25 30

Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile  
 35 40 45

Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60

Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
 65 70 75 80

Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly  
 85 90 95

Cys Met Ile Gln Leu Phe Phe Phe Cys Val Cys Val Ile Ser Glu Cys  
 100 105 110

Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125

Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu  
 130 135 140

Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly  
 145 150 155 160

Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His  
 165 170 175

Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr  
 180 185 190

Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val  
 195 200 205

Ala Thr Ser Leu Thr Ile Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser  
 210 215 220

Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr  
 225 230 235 240



Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met  
245 250 255

Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Ser Leu Thr Gln Glu Lys  
260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu  
275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu  
290 295 300

Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly  
305 310

<210> 19  
<211> 936  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (933)  
<223>

<400> 19  
atg tcc aac gcc acc cta ctg aca gcg ttc atc ctc acg ggc ctt ccc 48  
Met Ser Asn Ala Thr Leu Leu Thr Ala Phe Ile Leu Thr Gly Leu Pro  
1 5 10 15  
cat gcc cca ggg ctg gac gcc ccc ctc ttt gga atc ttc ctg gtg gtt 96  
His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val  
20 25 30  
tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg 144  
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
35 40 45  
gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg 192  
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu  
50 55 60  
tcc ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg 240  
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu  
65 70 75 80  
atg acc ttg gtg tcc cca agc ggc agg act atc tcc ttc cac agc tgc 288  
Met Thr Leu Val Ser Pro Ser Gly Arg Thr Ile Ser Phe His Ser Cys  
85 90 95  
gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc 336  
Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
100 105 110

ctc tac aca gtc atg tcc tat gat cgc tac ctg gcc atc agt tac ccg 384  
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125

ctc agg tac acc aac atg atg act ggg cgc tcg tgt gcc ctc ctg gcc 432  
 Leu Arg Tyr Thr Asn Met Met Thr Gly Arg Ser Cys Ala Leu Leu Ala  
 130 135 140

acc ggc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata 480  
 Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tac 528  
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

ttc tgt gac gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca 576  
 Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

gcc aac gag atg gtc atc ttt gtg aat att ggg cta gtg gcc tcg ggc 624  
 Ala Asn Glu Met Val Ile Phe Val Asn Ile Gly Leu Val Ala Ser Gly  
 195 200 205

tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc 672  
 Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

ctg cgg atc cgc acc tca gag ggg agg cac aga gcc ttt cag acc tgt 720  
 Leu Arg Ile Arg Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys  
 225 230 235 240

gcc tcc cac tgt atc gtg gtc ctt tgc ttc ttt ggc cct ggt ctt ttc 768  
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe  
 245 250 255

att tac ctg agg cca ggc tcc agg gac gcc ttg cat ggg gtt gtg gcc 816  
 Ile Tyr Leu Arg Pro Gly Ser Arg Asp Ala Leu His Gly Val Val Ala  
 260 265 270

gtt ttc tac acc acg ctg act cct ctt ttc aac cct gtt gtg tac acc 864  
 Val Phe Tyr Thr Thr Leu Thr Pro Leu Phe Asn Pro Val Val Tyr Thr  
 275 280 285

ctg aga aac aag gag gta aag aaa gct ctg ttg aag ctg aaa aat ggg 912  
 Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asn Gly  
 290 295 300

tca gta ttt gct cag ggt gaa tag 936  
 Ser Val Phe Ala Gln Gly Glu  
 305 310

<210> 20  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 20

Met Ser Asn Ala Thr Leu Leu Thr Ala Phe Ile Leu Thr Gly Leu Pro

1	5	10	15
His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val	20	25	30
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg	35	40	45
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu	50	55	60
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu	65	70	75
Met Thr Leu Val Ser Pro Ser Gly Arg Thr Ile Ser Phe His Ser Cys	85	90	95
Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe	100	105	110
Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro	115	120	125
Leu Arg Tyr Thr Asn Met Met Thr Gly Arg Ser Cys Ala Leu Leu Ala	130	135	140
Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile	145	150	155
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr	165	170	175
Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser	180	185	190
Ala Asn Glu Met Val Ile Phe Val Asn Ile Gly Leu Val Ala Ser Gly	195	200	205
Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile	210	215	220
Leu Arg Ile Arg Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys	225	230	235
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe	245	250	255

Ile Tyr Leu Arg Pro Gly Ser Arg Asp Ala Leu His Gly Val Val Ala  
 260 265 270

Val Phe Tyr Thr Thr Leu Thr Pro Leu Phe Asn Pro Val Val Tyr Thr  
 275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asn Gly  
 290 295 300

Ser Val Phe Ala Gln Gly Glu  
 305 310

<210> 21  
 <211> 972  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(969)  
 <223>

<400> 21  
 atg aac cct gaa aac tgg act cag gta aca agc ttt gtc ctt ctg ggt 48  
 Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly  
 1 5 10 15  
 ttc ccc agt agc cac ctc ata cag ttc ctg gtg ttc ctg ggg tta atg 96  
 Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met  
 20 25 30  
 gtg acc tac att gta aca gcc aca ggc aag ctg cta att att gtg ctc 144  
 Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu  
 35 40 45  
 agc tgg ata gac caa cgc ctg cac ata cag atg tac ttc ttc ctg cgg 192  
 Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg  
 50 55 60  
 aat ttc tcc ttc ctg gag ctg ttg ctg gta act gtt gtg gtt ccc aag 240  
 Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys  
 65 70 75 80  
 atg ctt gtc gtc atc ctc acg ggg gat cac acc atc tca ttt gtc agc 288  
 Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser  
 85 90 95  
 tgc atc atc cag tcc tac ctc tac ttc ttt cta ggc acc act gac ttc 336  
 Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe  
 100 105 110  
 ttc ctc ttg gcc gtc atg tct ctg gat cgt tac ctg gca atc tgc cga 384  
 Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg  
 115 120 125

cca ctc cgc tat gag acc ctg atg aat ggc cat gtc tgt tcc caa cta	432
Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu	
130 135 140	
gtg ctg gcc tcc tgg cta gct gga ttc ctc tgg gtc ctt tgc ccc act	480
Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr	
145 150 155 160	
gtc ctc atg gcc agc ctg cct ttc tgt ggc ccc aat ggt att gac cac	528
Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His	
165 170 175	
ttc ttt cgt gac agt tgg ccc ttg ctc agg ctt tct tgt ggg gac acc	576
Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr	
180 185 190	
cac ctg ctg aaa ctg gtg gct ttc atg ctc tct acg ttg gtg tta ctg	624
His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu	
195 200 205	
ggc tca ctg gct ctg acc tca gtt tcc tat gcc tgc att ctt gcc act	672
Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr	
210 215 220	
gtt ctc agg gcc cct aca gct gct gag cga agg aaa gcg ttt tcc act	720
Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr	
225 230 235 240	
tgc gcc tcg cat ctt aca gtg gtg gtc atc atc tat ggc agt tcc atc	768
Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile	
245 250 255	
ttt ctc tac att cgt atg tca gag gct cag tcc aaa ctg ctc aac aaa	816
Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys	
260 265 270	
ggt gcc tcc gtc ctg agc tgc atc atc aca ccc ctc ttg aac cca ttc	864
Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe	
275 280 285	
atc ttc act ctc cgc aat gac aag gtg cag caa gca ctg aga gaa gcc	912
Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala	
290 295 300	
ttg ggg tgg ccc agg ctg act gct gtg atg aaa ctg agg gtc aca agt	960
Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser	
305 310 315 320	
caa agg aaa tga	972
Gln Arg Lys	

<210> 22  
 <211> 323  
 <212> PRT  
 <213> Homo Sapiens

<400> 22

Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly  
 1 5 10 15  
 Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met  
 20 25 30  
 Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu  
 35 40 45  
 Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg  
 50 55 60  
 Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys  
 65 70 75 80  
 Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser  
 85 90 95  
 Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe  
 100 105 110  
 Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg  
 115 120 125  
 Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu  
 130 135 140  
 Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr  
 145 150 155 160  
 Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His  
 165 170 175  
 Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr  
 180 185 190  
 His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu  
 195 200 205  
 Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr  
 210 215 220  
 Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile

				245						250					255	
Phe	Leu	Tyr	Ile	Arg	Met	Ser	Glu	Ala	Gln	Ser	Lys	Leu	Leu	Asn	Lys	
			260					265					270			
Gly	Ala	Ser	Val	Leu	Ser	Cys	Ile	Ile	Thr	Pro	Leu	Leu	Asn	Pro	Phe	
		275					280					285				
Ile	Phe	Thr	Leu	Arg	Asn	Asp	Lys	Val	Gln	Gln	Ala	Leu	Arg	Glu	Ala	
	290					295					300					
Leu	Gly	Trp	Pro	Arg	Leu	Thr	Ala	Val	Met	Lys	Leu	Arg	Val	Thr	Ser	
305					310					315					320	

Gln Arg Lys

<210> 23  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(954)  
 <223>

<400>	23																		
atg	aat	cca	gca	aat	cat	tcc	cag	gtg	gca	gga	ttt	gtt	cta	ctg	ggg				48
Met	Asn	Pro	Ala	Asn	His	Ser	Gln	Val	Ala	Gly	Phe	Val	Leu	Leu	Gly				
1				5					10				15						
ctc	tct	cag	gtt	tgg	gag	ctt	cgg	ttt	gtt	ttc	ttc	act	gtt	ttc	tct				96
Leu	Ser	Gln	Val	Trp	Glu	Leu	Arg	Phe	Val	Phe	Phe	Thr	Val	Phe	Ser				
			20				25					30							
gct	gtg	tat	ttt	atg	act	gta	gtg	gga	aac	ctt	ctt	att	gtg	gtc	ata				144
Ala	Val	Tyr	Phe	Met	Thr	Val	Val	Gly	Asn	Leu	Leu	Ile	Val	Val	Ile				
		35				40					45								
gtg	acc	tcc	gac	cca	cac	ctg	cac	aca	acc	atg	tat	ttt	ctc	ttg	ggc				192
Val	Thr	Ser	Asp	Pro	His	Leu	His	Thr	Thr	Met	Tyr	Phe	Leu	Leu	Gly				
	50				55					60									
aat	ctt	tct	ttc	ctg	gac	ttt	tgc	tac	tct	tcc	atc	aca	gca	cct	agg				240
Asn	Leu	Ser	Phe	Leu	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Thr	Ala	Pro	Arg				
65					70				75					80					
atg	ctg	gtt	gac	ttg	ctc	tca	ggc	aac	cct	acc	att	tcc	ttt	ggg	gga				288
Met	Leu	Val	Asp	Leu	Leu	Ser	Gly	Asn	Pro	Thr	Ile	Ser	Phe	Gly	Gly				
			85				90					95							
tgc	ctg	act	caa	ctc	ttc	ttc	ttc	cac	ttc	att	gga	ggc	atc	aag	atc				336
Cys	Leu	Thr	Gln	Leu	Phe	Phe	Phe	His	Phe	Ile	Gly	Gly	Ile	Lys	Ile				

	100	105	110	
ttc ctg ctg act gtc atg gcg tat gac cgc tac att gcc att tcc cag				384
Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln				
	115	120	125	
ccc ctg cac tac acg ctc att atg aat cag act gtc tgt gca ctc ctt				432
Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu				
	130	135	140	
atg gca gcc tcc tgg gtg ggg ggc ttc atc cac tcc ata gta cag att				480
Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile				
	145	150	155	160
gca ttg act atc cag ctg cca ttc tgt ggg cct gac aag ctg gac aac				528
Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn				
	165	170	175	
ttt tat tgt gat gtg cct cag ctg atc aaa ttg gcc tgc aca gat acc				576
Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr				
	180	185	190	
ttt gtc tta gag ctt tta atg gtg tct aac aat ggc ctg gtg acc ctg				624
Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu				
	195	200	205	
atg tgt ttt ctg gtg ctt ctg gga tcg tac aca gca ctg cta gtc atg				672
Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met				
	210	215	220	
ctc cga agc cac tca cgg gag ggc cgc agc aag gcc ctg tct acc tgt				720
Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys				
	225	230	235	240
gcc tct cac att gct gtg gtg acc tta atc ttt gtg cct tgc atc tac				768
Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr				
	245	250	255	
gtc tat aca agg cct ttt cgg aca ttc ccc atg gac aag gcc gtc tct				816
Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser				
	260	265	270	
gtg cta tac aca att gtc acc ccc atg ctg aat cct gcc atc tat acc				864
Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr				
	275	280	285	
ctg aga aac aag gaa gtg atc atg gcc atg aag aag ctg tgg agg agg				912
Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg				
	290	295	300	
aaa aag gac cct att ggt ccc ctg gag cac aga ccc tta cat tag				957
Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His				
	305	310	315	

&lt;210&gt; 24

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 24



Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly  
 1 5 10 15  
 Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser  
 20 25 30  
 Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile  
 35 40 45  
 Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly  
 50 55 60  
 Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg  
 65 70 75 80  
 Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly  
 85 90 95  
 Cys Leu Thr Gln Leu Phe Phe Phe His Phe Ile Gly Gly Ile Lys Ile  
 100 105 110  
 Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln  
 115 120 125  
 Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu  
 130 135 140  
 Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile  
 145 150 155 160  
 Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn  
 165 170 175  
 Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr  
 180 185 190  
 Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu  
 195 200 205  
 Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met  
 210 215 220  
 Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys  
 225 230 235 240

Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr  
245 250 255

Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser  
260 265 270

Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr  
275 280 285

Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg  
290 295 300

Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His  
305 310 315

<210> 25  
<211> 999  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(996)  
<223>

<400> 25  
atg tta gag ggt gtt gag cat ctc ctt ctg cta ctt ctt ttg aca gat 48  
Met Leu Glu Gly Val Glu His Leu Leu Leu Leu Leu Leu Thr Asp  
1 5 10 15  
  
gtg aac agc aag gaa ctg caa agt gga aac cag act tct gtg tct cac 96  
Val Asn Ser Lys Glu Leu Gln Ser Gly Asn Gln Thr Ser Val Ser His  
20 25 30  
  
ttc att ttg gtg ggc ctg cac cac cca cca cag ctg gga gcg cca ctc 144  
Phe Ile Leu Val Gly Leu His His Pro Pro Gln Leu Gly Ala Pro Leu  
35 40 45  
  
ttc tta gct ttc ctt gtc atc tat ctc ctc act gtt tct gga aat ggg 192  
Phe Leu Ala Phe Leu Val Ile Tyr Leu Leu Thr Val Ser Gly Asn Gly  
50 55 60  
  
ctc atc atc ctc act gtc tta gtg gac atc cgg ctc cat cgt ccc atg 240  
Leu Ile Ile Leu Thr Val Leu Val Asp Ile Arg Leu His Arg Pro Met  
65 70 75 80  
  
tgc ttg ttc ctg tgt cac ctc tcc ttc ttg gac atg acc att tct tgt 288  
Cys Leu Phe Leu Cys His Leu Ser Phe Leu Asp Met Thr Ile Ser Cys  
85 90 95  
  
gct att gtc ccc aag atg ctg gct ggc ttt ctc ttg ggt agt agg att 336  
Ala Ile Val Pro Lys Met Leu Ala Gly Phe Leu Leu Gly Ser Arg Ile  
100 105 110  
  
atc tcc ttt ggg ggc tgt gta atc caa cta ttt tct ttc cat ttc ctg 384

Ile	Ser	Phe	Gly	Gly	Cys	Val	Ile	Gln	Leu	Phe	Ser	Phe	His	Phe	Leu		
		115					120					125					
ggc	tgt	act	gag	tgc	ttc	ctt	tac	aca	ctc	atg	gct	tat	gac	cgt	ttc		432
Gly	Cys	Thr	Glu	Cys	Phe	Leu	Tyr	Thr	Leu	Met	Ala	Tyr	Asp	Arg	Phe		
		130				135					140						
ctt	gcc	att	tgt	aag	ccc	tta	cac	tat	gct	acc	atc	atg	acc	cac	aga		480
Leu	Ala	Ile	Cys	Lys	Pro	Leu	His	Tyr	Ala	Thr	Ile	Met	Thr	His	Arg		
		145			150					155					160		
gtc	tgt	aac	tcc	ctg	gct	tta	ggc	acc	tgg	ctg	gga	ggg	act	atc	cat		528
Val	Cys	Asn	Ser	Leu	Ala	Leu	Gly	Thr	Trp	Leu	Gly	Gly	Thr	Ile	His		
				165					170						175		
tca	ctt	ttc	caa	aca	agt	ttt	gta	ttc	cgg	ctg	ccc	ttc	tgt	ggc	ccc		576
Ser	Leu	Phe	Gln	Thr	Ser	Phe	Val	Phe	Arg	Leu	Pro	Phe	Cys	Gly	Pro		
			180					185					190				
aat	cgg	gtc	gac	tac	atc	ttc	tgt	gac	att	cct	gcc	atg	ctg	cgt	cta		624
Asn	Arg	Val	Asp	Tyr	Ile	Phe	Cys	Asp	Ile	Pro	Ala	Met	Leu	Arg	Leu		
		195					200					205					
gcc	tgc	gcc	gat	acg	gcc	atc	aac	gag	ctg	gtc	acc	ttt	gca	gac	att		672
Ala	Cys	Ala	Asp	Thr	Ala	Ile	Asn	Glu	Leu	Val	Thr	Phe	Ala	Asp	Ile		
		210				215					220						
ggc	ttc	ctg	gcc	ctc	acc	tgc	ttc	atg	ctc	atc	ctc	act	tcc	tat	ggc		720
Gly	Phe	Leu	Ala	Leu	Thr	Cys	Phe	Met	Leu	Ile	Leu	Thr	Ser	Tyr	Gly		
		225			230					235					240		
tat	att	gta	gct	gcc	atc	ctg	cga	att	ccg	tca	gca	gat	ggg	cgc	cgc		768
Tyr	Ile	Val	Ala	Ala	Ile	Leu	Arg	Ile	Pro	Ser	Ala	Asp	Gly	Arg	Arg		
				245				250						255			
aat	gcc	ttc	tcc	act	tgt	gct	gcc	cac	ctc	act	gtt	gtc	att	gtt	tac		816
Asn	Ala	Phe	Ser	Thr	Cys	Ala	Ala	His	Leu	Thr	Val	Val	Ile	Val	Tyr		
			260					265					270				
tat	gtg	ccc	tgc	acc	ttc	att	tac	ctg	cgg	cct	tgt	tca	cag	gag	ccc		864
Tyr	Val	Pro	Cys	Thr	Phe	Ile	Tyr	Leu	Arg	Pro	Cys	Ser	Gln	Glu	Pro		
		275					280					285					
ctg	gat	ggg	gtg	gta	gct	gtc	ttt	tac	act	gtc	atc	act	ccc	ttg	ctt		912
Leu	Asp	Gly	Val	Val	Ala	Val	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Leu	Leu		
		290				295					300						
aac	tcc	atc	atc	tac	aca	ctg	tgc	aac	aaa	gaa	atg	aag	gca	gca	tta		960
Asn	Ser	Ile	Ile	Tyr	Thr	Leu	Cys	Asn	Lys	Glu	Met	Lys	Ala	Ala	Leu		
		305			310					315					320		
cag	agg	cta	ggg	ggc	cac	aag	gaa	gtg	cag	cct	cac	tga					999
Gln	Arg	Leu	Gly	Gly	His	Lys	Glu	Val	Gln	Pro	His						
				325					330								

<210> 26  
 <211> 332  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 26

Met Leu Glu Gly Val Glu His Leu Leu Leu Leu Leu Leu Thr Asp  
1 5 10 15

Val Asn Ser Lys Glu Leu Gln Ser Gly Asn Gln Thr Ser Val Ser His  
20 25 30

Phe Ile Leu Val Gly Leu His His Pro Pro Gln Leu Gly Ala Pro Leu  
35 40 45

Phe Leu Ala Phe Leu Val Ile Tyr Leu Leu Thr Val Ser Gly Asn Gly  
50 55 60

Leu Ile Ile Leu Thr Val Leu Val Asp Ile Arg Leu His Arg Pro Met  
65 70 75 80

Cys Leu Phe Leu Cys His Leu Ser Phe Leu Asp Met Thr Ile Ser Cys  
85 90 95

Ala Ile Val Pro Lys Met Leu Ala Gly Phe Leu Leu Gly Ser Arg Ile  
100 105 110

Ile Ser Phe Gly Gly Cys Val Ile Gln Leu Phe Ser Phe His Phe Leu  
115 120 125

Gly Cys Thr Glu Cys Phe Leu Tyr Thr Leu Met Ala Tyr Asp Arg Phe  
130 135 140

Leu Ala Ile Cys Lys Pro Leu His Tyr Ala Thr Ile Met Thr His Arg  
145 150 155 160

Val Cys Asn Ser Leu Ala Leu Gly Thr Trp Leu Gly Gly Thr Ile His  
165 170 175

Ser Leu Phe Gln Thr Ser Phe Val Phe Arg Leu Pro Phe Cys Gly Pro  
180 185 190

Asn Arg Val Asp Tyr Ile Phe Cys Asp Ile Pro Ala Met Leu Arg Leu  
195 200 205

Ala Cys Ala Asp Thr Ala Ile Asn Glu Leu Val Thr Phe Ala Asp Ile  
210 215 220

Gly Phe Leu Ala Leu Thr Cys Phe Met Leu Ile Leu Thr Ser Tyr Gly  
225 230 235 240

Tyr Ile Val Ala Ala Ile Leu Arg Ile Pro Ser Ala Asp Gly Arg Arg  
245 250 255

Asn Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ile Val Tyr  
260 265 270

Tyr Val Pro Cys Thr Phe Ile Tyr Leu Arg Pro Cys Ser Gln Glu Pro  
275 280 285

Leu Asp Gly Val Val Ala Val Phe Tyr Thr Val Ile Thr Pro Leu Leu  
290 295 300

Asn Ser Ile Ile Tyr Thr Leu Cys Asn Lys Glu Met Lys Ala Ala Leu  
305 310 315 320

Gln Arg Leu Gly Gly His Lys Glu Val Gln Pro His  
325 330

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Met Pro Val Gly Lys Leu Val Phe Asn Gln Ser Glu Pro Thr Glu Phe  
1 5 10 15  
gtg ttc cgt gcg ttc acc aca gcc act gaa ttc cag gtt ctt ctc ttc 96  
Val Phe Arg Ala Phe Thr Thr Ala Thr Glu Phe Gln Val Leu Leu Phe  
20 25 30  
ctt ctc ttc ctc ctc ctc tac ttg atg atc ctc tgt ggc aac aca gcc 144  
Leu Leu Phe Leu Leu Leu Tyr Leu Met Ile Leu Cys Gly Asn Thr Ala  
35 40 45  
atc atc tgg gtg gtg tgc aca cac agc acc ctc cgc acc ccg atg tat 192  
Ile Ile Trp Val Val Cys Thr His Ser Thr Leu Arg Thr Pro Met Tyr  
50 55 60  
ttc ttc ctg tcc aac ctg tct ttc ctg gaa ctc tgc tac acc acc gtg 240  
Phe Phe Leu Ser Asn Leu Ser Phe Leu Glu Leu Cys Tyr Thr Thr Val  
65 70 75 80  
gta gta ccc ttg atg ctt tcc aac att ttg ggg gcc cag aag ccc att 288  
Val Val Pro Leu Met Leu Ser Asn Ile Leu Gly Ala Gln Lys Pro Ile  
85 90 95

tcg ttg gct gga tgt ggg gcc caa atg ttc ttc ttt gtc acc ctc ggc	336
Ser Leu Ala Gly Cys Gly Ala Gln Met Phe Phe Phe Val Thr Leu Gly	
100 105 110	
agc acg gac tgt ttc ctc ttg gcg atc atg gcc tat gac cgc tat gtg	384
Ser Thr Asp Cys Phe Leu Leu Ala Ile Met Ala Tyr Asp Arg Tyr Val	
115 120 125	
gct atc tgc cac ccg ctg cac tac acc ctc atc atg acc cgc gag ctg	432
Ala Ile Cys His Pro Leu His Tyr Thr Leu Ile Met Thr Arg Glu Leu	
130 135 140	
tgc acg cag atg ctg ggt ggg gcc ctg ggc ctg gcc ctc ttc ccc tcc	480
Cys Thr Gln Met Leu Gly Gly Ala Leu Gly Leu Ala Leu Phe Pro Ser	
145 150 155 160	
ctg cag ctc acc gcc tta atc ttc acc ctg ccc ttt tgc ggc cac cac	528
Leu Gln Leu Thr Ala Leu Ile Phe Thr Leu Pro Phe Cys Gly His His	
165 170 175	
cag gaa atc aac cac ttc ctc tgc gat gtg cct ccc gtc ctg cgc ctg	576
Gln Glu Ile Asn His Phe Leu Cys Asp Val Pro Pro Val Leu Arg Leu	
180 185 190	
gcc tgc gct gac atc cgc gtg cac cag gct gtc ctc tat gtc gtg agc	624
Ala Cys Ala Asp Ile Arg Val His Gln Ala Val Leu Tyr Val Val Ser	
195 200 205	
atc ctc gtg ctg acc atc ccc ttc ctg ctc atc tgc gtc tcc tac gtg	672
Ile Leu Val Leu Thr Ile Pro Phe Leu Leu Ile Cys Val Ser Tyr Val	
210 215 220	
ttc atc acc tgt gcc atc ctg agc atc cgt tct gcc gag ggc cgc cgc	720
Phe Ile Thr Cys Ala Ile Leu Ser Ile Arg Ser Ala Glu Gly Arg Arg	
225 230 235 240	
cgg gcc ttc tcc acc tgc tcc ttc cac ctc acc gtg gtc ctg ctg cag	768
Arg Ala Phe Ser Thr Cys Ser Phe His Leu Thr Val Val Leu Leu Gln	
245 250 255	
tat ggc tgc tgc agc ctc gtg tac ctg cgt cct cgg tcc agc acc tca	816
Tyr Gly Cys Cys Ser Leu Val Tyr Leu Arg Pro Arg Ser Ser Thr Ser	
260 265 270	
gag gat gag gac agc caa atc gcg ttg gtc tac acc ttt gtc acc ccc	864
Glu Asp Glu Asp Ser Gln Ile Ala Leu Val Tyr Thr Phe Val Thr Pro	
275 280 285	
tta ctc aac cct ttg ctt tac agc ctt agg aac aag gat gtc aaa ggt	912
Leu Leu Asn Pro Leu Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly	
290 295 300	
gct ctg agg agt gcc att atc cgt aaa gca gcc tct gac gcc aac tga	960
Ala Leu Arg Ser Ala Ile Ile Arg Lys Ala Ala Ser Asp Ala Asn	
305 310 315	

&lt;210&gt; 28

&lt;211&gt; 319

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 28

Met Pro Val Gly Lys Leu Val Phe Asn Gln Ser Glu Pro Thr Glu Phe  
 1 5 10 15

Val Phe Arg Ala Phe Thr Thr Ala Thr Glu Phe Gln Val Leu Leu Phe  
 20 25 30

Leu Leu Phe Leu Leu Leu Tyr Leu Met Ile Leu Cys Gly Asn Thr Ala  
 35 40 45

Ile Ile Trp Val Val Cys Thr His Ser Thr Leu Arg Thr Pro Met Tyr  
 50 55 60

Phe Phe Leu Ser Asn Leu Ser Phe Leu Glu Leu Cys Tyr Thr Thr Val  
 65 70 75 80

Val Val Pro Leu Met Leu Ser Asn Ile Leu Gly Ala Gln Lys Pro Ile  
 85 90 95

Ser Leu Ala Gly Cys Gly Ala Gln Met Phe Phe Phe Val Thr Leu Gly  
 100 105 110

Ser Thr Asp Cys Phe Leu Leu Ala Ile Met Ala Tyr Asp Arg Tyr Val  
 115 120 125

Ala Ile Cys His Pro Leu His Tyr Thr Leu Ile Met Thr Arg Glu Leu  
 130 135 140

Cys Thr Gln Met Leu Gly Gly Ala Leu Gly Leu Ala Leu Phe Pro Ser  
 145 150 155 160

Leu Gln Leu Thr Ala Leu Ile Phe Thr Leu Pro Phe Cys Gly His His  
 165 170 175

Gln Glu Ile Asn His Phe Leu Cys Asp Val Pro Pro Val Leu Arg Leu  
 180 185 190

Ala Cys Ala Asp Ile Arg Val His Gln Ala Val Leu Tyr Val Val Ser  
 195 200 205

Ile Leu Val Leu Thr Ile Pro Phe Leu Leu Ile Cys Val Ser Tyr Val  
 210 215 220

Phe Ile Thr Cys Ala Ile Leu Ser Ile Arg Ser Ala Glu Gly Arg Arg  
 225 230 235 240

Arg Ala Phe Ser Thr Cys Ser Phe His Leu Thr Val Val Leu Leu Gln  
 245 250 255

Tyr Gly Cys Cys Ser Leu Val Tyr Leu Arg Pro Arg Ser Ser Thr Ser  
 260 265 270

Glu Asp Glu Asp Ser Gln Ile Ala Leu Val Tyr Thr Phe Val Thr Pro  
 275 280 285

Leu Leu Asn Pro Leu Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly  
 290 295 300

Ala Leu Arg Ser Ala Ile Ile Arg Lys Ala Ala Ser Asp Ala Asn  
 305 310 315

<210> 29  
 <211> 978  
 <212> DNA  
 <213> Homo Sapiens

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 Met Lys Thr Leu Cys Ser Phe Leu Gln Ile Ser Arg Asn Met His Gln  
 1 5 10 15  
 gaa aac caa acc acc atc act gaa ttc att ctc ctg gga ctc tcc aac 96  
 Glu Asn Gln Thr Thr Ile Thr Glu Phe Ile Leu Leu Gly Leu Ser Asn  
 20 25 30  
 cag gct gaa cat caa aac ctc ctc ttt gtg ctt ttc ctg agt atg tat 144  
 Gln Ala Glu His Gln Asn Leu Leu Phe Val Leu Phe Leu Ser Met Tyr  
 35 40 45  
 gtg gtc act gtg gtt ggg aac ggg ctc atc att gtg gct atc agc ttg 192  
 Val Val Thr Val Val Gly Asn Gly Leu Ile Ile Val Ala Ile Ser Leu  
 50 55 60  
 gat ata tac ctt cac acc ccc atg tat ctc ttc ctt gcc tac cta tcc 240  
 Asp Ile Tyr Leu His Thr Pro Met Tyr Leu Phe Leu Ala Tyr Leu Ser  
 65 70 75 80  
 ttt gct gat att tcc tcc att tcc aac tca gtc ccc aaa atg ctg gtg 288  
 Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys Met Leu Val  
 85 90 95  
 aat att caa acc aac agc caa tcc atc tct tat gag agc tgc atc aca 336  
 Asn Ile Gln Thr Asn Ser Gln Ser Ile Ser Tyr Glu Ser Cys Ile Thr  
 100 105 110



cag atg tac ttt tct att gtg ttt gtc gtc act gac aat ttg ctt ttg	384
Gln Met Tyr Phe Ser Ile Val Phe Val Val Thr Asp Asn Leu Leu Leu	
115 120 125	
ggg acc atg gcc ttc gac cac ttt gtg gcg atc tgc cac cct ctg aac	432
Gly Thr Met Ala Phe Asp His Phe Val Ala Ile Cys His Pro Leu Asn	
130 135 140	
tat aca act ttc atg cgg gcc agg ttc ggc act ttg ctc aca gtc atc	480
Tyr Thr Thr Phe Met Arg Ala Arg Phe Gly Thr Leu Leu Thr Val Ile	
145 150 155 160	
tcg tgg ttc ctc agt aat att att gct ctt aca cac acc ctt ctg ctc	528
Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr Leu Leu Leu	
165 170 175	
att caa ttg ctc ttc tgt gac cac aac act ctc cca cac ttc ttc tgt	576
Ile Gln Leu Leu Phe Cys Asp His Asn Thr Leu Pro His Phe Phe Cys	
180 185 190	
gac ttg gcc cct ctg ctc aaa ctg tcc tgt tca gat aca atg atc aat	624
Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr Met Ile Asn	
195 200 205	
gag ctt gtg ttg ttt att gtg ggt tta tca gtt atc atc ttc ccc ttt	672
Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile Phe Pro Phe	
210 215 220	
gta ctc atc ttc ttc tcc tat gtc tgc atc atc aga gct gtc ctg gga	720
Val Leu Ile Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala Val Leu Gly	
225 230 235 240	
gta tca tcc aca cag gga aag tgg aaa gcc ttc tcc act tgt ggc tct	768
Val Ser Ser Thr Gln Gly Lys Trp Lys Ala Phe Ser Thr Cys Gly Ser	
245 250 255	
cac ctg aca att gca tta ctg ttc tac gga acc act gta ggc gtg tac	816
His Leu Thr Ile Ala Leu Leu Phe Tyr Gly Thr Thr Val Gly Val Tyr	
260 265 270	
ttt ttc ccc tcc tcc act cac cct gag gac act gat aag att ggt gct	864
Phe Phe Pro Ser Ser Thr His Pro Glu Asp Thr Asp Lys Ile Gly Ala	
275 280 285	
gtc cta ttc act gtg gtg aca ccc atg atg aac ccc ttc atc tac agc	912
Val Leu Phe Thr Val Val Thr Pro Met Met Asn Pro Phe Ile Tyr Ser	
290 295 300	
ttg agg aat aag gat atg aaa ggt gcc ctg aga aag ctc atc aat aga	960
Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Arg Lys Leu Ile Asn Arg	
305 310 315 320	
aaa att tct tcc ctt tga	978
Lys Ile Ser Ser Leu	
325	
<210> 30	
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<212> PRT	

&lt;213&gt; Homo Sapiens

&lt;400&gt; 30

Met Lys Thr Leu Cys Ser Phe Leu Gln Ile Ser Arg Asn Met His Gln  
 1 5 10 15

Glu Asn Gln Thr Thr Ile Thr Glu Phe Ile Leu Leu Gly Leu Ser Asn  
 20 25 30

Gln Ala Glu His Gln Asn Leu Leu Phe Val Leu Phe Leu Ser Met Tyr  
 35 40 45

Val Val Thr Val Val Gly Asn Gly Leu Ile Ile Val Ala Ile Ser Leu  
 50 55 60

Asp Ile Tyr Leu His Thr Pro Met Tyr Leu Phe Leu Ala Tyr Leu Ser  
 65 70 75 80

Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys Met Leu Val  
 85 90 95

Asn Ile Gln Thr Asn Ser Gln Ser Ile Ser Tyr Glu Ser Cys Ile Thr  
 100 105 110

Gln Met Tyr Phe Ser Ile Val Phe Val Val Thr Asp Asn Leu Leu Leu  
 115 120 125

Gly Thr Met Ala Phe Asp His Phe Val Ala Ile Cys His Pro Leu Asn  
 130 135 140

Tyr Thr Thr Phe Met Arg Ala Arg Phe Gly Thr Leu Leu Thr Val Ile  
 145 150 155 160

Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr Leu Leu Leu  
 165 170 175

Ile Gln Leu Leu Phe Cys Asp His Asn Thr Leu Pro His Phe Phe Cys  
 180 185 190

Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr Met Ile Asn  
 195 200 205

Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile Phe Pro Phe  
 210 215 220

Val Leu Ile Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala Val Leu Gly

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<210> 31
<211> 945
<212> DNA
<213> Homo Sapiens

<220>
<221> CDS
<222> (1)..(942)
<223>
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Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly																
1	5	10	15													
ttt atg gac cac ccc aaa ttg gag att ccc ctc ttt ctg gtg ttt ctg	96															
Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu																
	20	25	30													
agt ttc tac cta gtc acc ctt ctt ggg aat gtg ggg atg att atg tta	144															
Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu																
	35	40	45													
atc caa gta gat gtc aaa ctc tac acc cca atg tac ttc ttc ctg agc	192															
Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser																
50	55	60														
cac ctc tcc ctg ctg gat gcc tgt tac acc tca gtc atc acc cct cag	240															
His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln																
65	70	75	80													
atc cta gcc aca ttg gcc aca ggc aaa acg gtc atc tcc tac ggc cac	288															
Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His																



&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 32

Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly  
 1 5 10 15

Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu  
 20 25 30

Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu  
 35 40 45

Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln  
 65 70 75 80

Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His  
 85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Cys  
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn  
 115 120 125

Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu  
 130 135 140

Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr  
 145 150 155 160

Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe  
 165 170 175

Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr  
 180 185 190

Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu  
 195 200 205

Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr  
 210 215 220

Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile  
 245 250 255

Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys  
 260 265 270

Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val  
 290 295 300

Ala Arg Arg Leu Gln Val Ser Leu Ser Met  
 305 310

<210> 33  
 <211> 876  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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atg gag agc ccc aat cga acc acc att cag gag ttt atc ttc tcc gct	48
Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala	
1 5 10 15	
ttc cct tat tcc tgg gtt aag tct gtt gtc tgc ttt gtt cca ctg ctc	96
Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu	
20 25 30	
ttc atc tat gct ttc att gtt gtt gga aac ctg gtc atc atc aca gtg	144
Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val	
35 40 45	
gtc cag ttg aat act cac ctc cac act ccc atg tat act ttt atc agt	192
Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser	
50 55 60	
gct ctt tct ttc ctg gag att tgg tat acc aca gcc aca atc cca aag	240
Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys	
65 70 75 80	
atg ctg tct agc ctg ctt agt gag agg agc att tcc ttc aat ggt tgt	288
Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys	
85 90 95	
ctc ctg cag atg tat ttc ttc cat tcc acc ggc atc tgt gag gtg tgt	336

Leu	Leu	Gln	Met	Tyr	Phe	Phe	His	Ser	Thr	Gly	Ile	Cys	Glu	Val	Cys		
			100					105					110				
ctc	ttg	aca	gtt	atg	gcc	ttt	gac	cac	tac	ctg	gcc	ata	tgc	agc	cct		384
Leu	Leu	Thr	Val	Met	Ala	Phe	Asp	His	Tyr	Leu	Ala	Ile	Cys	Ser	Pro		
			115				120					125					
ctt	cat	tat	ccc	tct	atc	atg	acc	ccc	aag	cta	tgt	acc	caa	ctg	act		432
Leu	His	Tyr	Pro	Ser	Ile	Met	Thr	Pro	Lys	Leu	Cys	Thr	Gln	Leu	Thr		
			130			135					140						
tta	agt	tgc	tgt	gtt	tgt	ggc	ttt	atc	aca	ccc	ctt	cct	gag	att	gcc		480
Leu	Ser	Cys	Cys	Val	Cys	Gly	Phe	Ile	Thr	Pro	Leu	Pro	Glu	Ile	Ala		
145					150					155					160		
tgg	atc	tct	aca	ctg	cca	ttt	tgt	ggc	tgc	aat	cac	ctt	gaa	cat	atc		528
Trp	Ile	Ser	Thr	Leu	Pro	Phe	Cys	Gly	Ser	Asn	His	Leu	Glu	His	Ile		
				165					170					175			
ttc	tgt	gac	ttc	ctc	cca	gtg	ctg	cgt	ctg	gcc	tgc	aca	gac	aca	cga		576
Phe	Cys	Asp	Phe	Leu	Pro	Val	Leu	Arg	Leu	Ala	Cys	Thr	Asp	Thr	Arg		
			180					185					190				
gcc	atc	gtc	atg	att	cag	gta	gtg	gat	gtc	att	cat	gca	gtg	gag	att		624
Ala	Ile	Val	Met	Ile	Gln	Val	Val	Asp	Val	Ile	His	Ala	Val	Glu	Ile		
			195				200					205					
att	aca	gct	gtg	atg	ctc	atc	ttc	atg	tcc	tac	gat	ggc	att	gtg	gct		672
Ile	Thr	Ala	Val	Met	Leu	Ile	Phe	Met	Ser	Tyr	Asp	Gly	Ile	Val	Ala		
			210			215					220						
gta	att	cta	cgt	att	cat	tca	gct	gga	ggc	cgc	cgg	cac	agc	att	ttc		720
Val	Ile	Leu	Arg	Ile	His	Ser	Ala	Gly	Gly	Arg	Arg	His	Ser	Ile	Phe		
225					230					235					240		
cac	gtg	tgt	ctc	tca	ctt	cat	tgt	ctt	ttc	gct	ctt	ctt	tgg	cag	tgt		768
His	Val	Cys	Leu	Ser	Leu	His	Cys	Leu	Phe	Ala	Leu	Leu	Trp	Gln	Cys		
				245					250					255			
gac	tct	cat	gta	cct	acg	ctt	ctc	tgc	cac	cta	ctc	ttt	gtt	ctg	gga		816
Asp	Ser	His	Val	Pro	Thr	Leu	Leu	Cys	His	Leu	Leu	Phe	Val	Leu	Gly		
			260					265					270				
tat	agc	cat	tgc	tct	ggc	ctt	tgc	agt	ttt	gtc	tcc	ctt	ctt	caa	ccc		864
Tyr	Ser	His	Cys	Ser	Gly	Leu	Cys	Ser	Phe	Val	Ser	Leu	Leu	Gln	Pro		
			275				280					285					
cat	tat	cta	tag														876
His	Tyr	Leu															
			290														
<210>	34																
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<212>	PRT																
<213>	Homo Sapiens																
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Met	Glu	Ser	Pro	Asn	Arg	Thr	Thr	Ile	Gln	Glu	Phe	Ile	Phe	Ser	Ala		
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Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys  
85 90 95

Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys  
100 105 110

Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro  
115 120 125

Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr  
130 135 140

Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala  
145 150 155 160

Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile  
165 170 175

Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg  
180 185 190

Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile  
195 200 205

Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala  
210 215 220

Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg His Ser Ile Phe  
225 230 235 240

His Val Cys Leu Ser Leu His Cys Leu Phe Ala Leu Leu Trp Gln Cys  
245 250 255



Asp Ser His Val Pro Thr Leu Leu Cys His Leu Leu Phe Val Leu Gly  
 260 265 270

Tyr Ser His Cys Ser Gly Leu Cys Ser Phe Val Ser Leu Leu Gln Pro  
 275 280 285

His Tyr Leu  
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 Met Asp Thr Gly Asn Trp Ser Gln Val Ala Glu Phe Ile Ile Leu Gly  
 1 5 10 15  
 ttc ccc cat ctc cag ggt gtc cag att tat ctc ttc ctc ttg ttg ctt 96  
 Phe Pro His Leu Gln Gly Val Gln Ile Tyr Leu Phe Leu Leu Leu Leu  
 20 25 30  
 ctc att tac ctc atg act gtg ttg gga aac ctg ctg ata ttc ctg gtg 144  
 Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val  
 35 40 45  
 gtc tgc ctg gac tcc cgg ctt cac aca ccc atg tac cac ttt gtc agc 192  
 Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser  
 50 55 60  
 att ctc tcc ttc tca gag ctt ggc tat aca gct gcc acc atc cct aag 240  
 Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys  
 65 70 75 80  
 atg ctg gca aac ttg ctc agt gag aaa aag acc att tca ttc tct ggg 288  
 Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly  
 85 90 95  
 tgt ctc ctg cag atc tat ttc ttt cac tcc ctt gga gcg act gag tgc 336  
 Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys  
 100 105 110  
 tat ctc ctg aca gct atg gcc tac gat agg tat tta gcc atc tgc cgg 384  
 Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg  
 115 120 125  
 ccc ctc cac tac cca acc ctc atg acc cca aca ctt tgt gca gag att 432  
 Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile  
 130 135 140

gcc att ggc tgt tgg ttg gga ggc ttg gct ggg cca gta gtt gaa att 480  
 Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile  
 145 150 155 160  
  
 tcc ttg att tca cgc ctc cca ttc tgt ggc ccc aat cgc att cag cac 528  
 Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His  
 165 170 175  
  
 gtc ttt tgt gac ttc cct cct gtg ctg agt ttg gct tgc act gat acg 576  
 Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr  
 180 185 190  
  
 tct ata aat gtc cta gta gat ttt gtt ata aat tcc tgc aag atc cta 624  
 Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu  
 195 200 205  
  
 gcc acc ttc ctg ctg atc ctc tgc tcc tat gtg cag atc atc tgc aca 672  
 Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr  
 210 215 220  
  
 gtg ctc aga att ccc tca gct gcc ggc aag agg aag gcc atc tcc acg 720  
 Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr  
 225 230 235 240  
  
 tgt gcc tcc cac ttc act gtg gtt ctc atc ttc tat ggg agc atc ctt 768  
 Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu  
 245 250 255  
  
 tcc atg tat gtg cag ctg aag aag agc tac tca ctg gac tat gac cag 816  
 Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln  
 260 265 270  
  
 gcc ctg gca gtg gtc tac tca gtg ctc aca ccc ttc ctc aac ccc ttc 864  
 Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe  
 275 280 285  
  
 atc tac agc ttg cgc aac aag gag atc aag gag gct gtg agg agg cag 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Val Arg Arg Gln  
 290 295 300  
  
 cta aag aga att ggg ata ttg gca tga 939  
 Leu Lys Arg Ile Gly Ile Leu Ala  
 305 310

<210> 36  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 36

Met Asp Thr Gly Asn Trp Ser Gln Val Ala Glu Phe Ile Ile Leu Gly  
1 5 10 15

Phe Pro His Leu Gln Gly Val Gln Ile Tyr Leu Phe Leu Leu Leu Leu  
20 25 30

Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val

35	40	45
Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser		
50	55	60
Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys		
65	70	75
Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly		
85	90	95
Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys		
100	105	110
Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg		
115	120	125
Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile		
130	135	140
Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile		
145	150	155
Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His		
165	170	175
Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr		
180	185	190
Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu		
195	200	205
Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr		
210	215	220
Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr		
225	230	235
Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu		
245	250	255
Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln		
260	265	270
Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe		
275	280	285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Val Arg Arg Gln  
 290 295 300

Leu Lys Arg Ile Gly Ile Leu Ala  
 305 310

<210> 37  
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 Met Gly Glu Glu Asn Gln Thr Phe Val Ser Lys Phe Ile Phe Leu Gly  
 1 5 10 15  
 ctt tca cag gac ttg cag acc cag atc ctg cta ttt atc ctt ttc ctc 96  
 Leu Ser Gln Asp Leu Gln Thr Gln Ile Leu Leu Phe Ile Leu Phe Leu  
 20 25 30  
 atc att tat ctg ctg acc gtg ctt gga aac cag ctc atc atc att ctc 144  
 Ile Ile Tyr Leu Leu Thr Val Leu Gly Asn Gln Leu Ile Ile Ile Leu  
 35 40 45  
 atc ttc ctg gat tct cgc ctt cac act ccc atg tat ttt ttt ctt aga 192  
 Ile Phe Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
 50 55 60  
 aat ctc tcc ttt gca gat ctc tgt ttc tct act agc att gtc cct caa 240  
 Asn Leu Ser Phe Ala Asp Leu Cys Phe Ser Thr Ser Ile Val Pro Gln  
 65 70 75 80  
 gtg ttg gtt cac ttc ttg gta aag agg aaa acc att tct ttt tat ggg 288  
 Val Leu Val His Phe Leu Val Lys Arg Lys Thr Ile Ser Phe Tyr Gly  
 85 90 95  
 tgt atg aca cag ata att gtc ttt ctt ctg gtt ggg tgt aca gag tgt 336  
 Cys Met Thr Gln Ile Ile Val Phe Leu Leu Val Gly Cys Thr Glu Cys  
 100 105 110  
 gcg ctg ctg gca gtg atg tcc tat gac cgg tat gtg gct gtc tgc aag 384  
 Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Lys  
 115 120 125  
 ccc ctg tac tac tct acc atc atg aca caa cgg gtg tgt ctc tgg ctg 432  
 Pro Leu Tyr Tyr Ser Thr Ile Met Thr Gln Arg Val Cys Leu Trp Leu  
 130 135 140  
 tcc ttc agg tcc tgg gcc agt ggg gca cta gtg tct tta gta gat acc 480  
 Ser Phe Arg Ser Trp Ala Ser Gly Ala Leu Val Ser Leu Val Asp Thr  
 145 150 155 160

agc ttt act ttc cat ctt ccc tac tgg gga cag aat ata atc aat cac 528  
 Ser Phe Thr Phe His Leu Pro Tyr Trp Gly Gln Asn Ile Ile Asn His  
 165 170 175

tac ttt tgt gaa cct cct gcc ctc ctg aag ctg gct tcc ata gac act 576  
 Tyr Phe Cys Glu Pro Pro Ala Leu Leu Lys Leu Ala Ser Ile Asp Thr  
 180 185 190

tac agc aca gaa atg gcc atc ttt tca atg ggc gtg gta atc ctc ctg 624  
 Tyr Ser Thr Glu Met Ala Ile Phe Ser Met Gly Val Val Ile Leu Leu  
 195 200 205

gcc cct gtc tcc ctg att ctt ggt tct tat tgg aat att atc tcc act 672  
 Ala Pro Val Ser Leu Ile Leu Gly Ser Tyr Trp Asn Ile Ile Ser Thr  
 210 215 220

gtt atc cag atg cag tct ggg gaa ggg aga ctc aag gct ttt tcc acc 720  
 Val Ile Gln Met Gln Ser Gly Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 225 230 235 240

tgt ggc tcc cat ctt att gtt gtt gtc ctc ttc tat ggg tca gga ata 768  
 Cys Gly Ser His Leu Ile Val Val Val Leu Phe Tyr Gly Ser Gly Ile  
 245 250 255

ttc acc tac atg cga cca aac tcc aag act aca aaa gaa ctg gat aaa 816  
 Phe Thr Tyr Met Arg Pro Asn Ser Lys Thr Thr Lys Glu Leu Asp Lys  
 260 265 270

atg ata tct gtg ttc tat aca gcg gtg act cca atg ttg aac ccc ata 864  
 Met Ile Ser Val Phe Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Ile  
 275 280 285

att tat agc ttg agg aac aaa gat gtc aaa ggg gct ctc agg aaa cta 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Arg Lys Leu  
 290 295 300

gtt ggg aga aag tgc ttc tct cat agg cag tga 945  
 Val Gly Arg Lys Cys Phe Ser His Arg Gln  
 305 310

<210> 38  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 38

Met Gly Glu Glu Asn Gln Thr Phe Val Ser Lys Phe Ile Phe Leu Gly  
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Leu Ser Gln Asp Leu Gln Thr Gln Ile Leu Leu Phe Ile Leu Phe Leu  
20 25 30

Ile Ile Tyr Leu Leu Thr Val Leu Gly Asn Gln Leu Ile Ile Ile Leu  
35 40 45

Ile Phe Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
 50 55 60

Asn Leu Ser Phe Ala Asp Leu Cys Phe Ser Thr Ser Ile Val Pro Gln  
 65 70 75 80

Val Leu Val His Phe Leu Val Lys Arg Lys Thr Ile Ser Phe Tyr Gly  
 85 90 95

Cys Met Thr Gln Ile Ile Val Phe Leu Leu Val Gly Cys Thr Glu Cys  
 100 105 110

Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Lys  
 115 120 125

Pro Leu Tyr Tyr Ser Thr Ile Met Thr Gln Arg Val Cys Leu Trp Leu  
 130 135 140

Ser Phe Arg Ser Trp Ala Ser Gly Ala Leu Val Ser Leu Val Asp Thr  
 145 150 155 160

Ser Phe Thr Phe His Leu Pro Tyr Trp Gly Gln Asn Ile Ile Asn His  
 165 170 175

Tyr Phe Cys Glu Pro Pro Ala Leu Leu Lys Leu Ala Ser Ile Asp Thr  
 180 185 190

Tyr Ser Thr Glu Met Ala Ile Phe Ser Met Gly Val Val Ile Leu Leu  
 195 200 205

Ala Pro Val Ser Leu Ile Leu Gly Ser Tyr Trp Asn Ile Ile Ser Thr  
 210 215 220

Val Ile Gln Met Gln Ser Gly Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ile Val Val Val Leu Phe Tyr Gly Ser Gly Ile  
 245 250 255

Phe Thr Tyr Met Arg Pro Asn Ser Lys Thr Thr Lys Glu Leu Asp Lys  
 260 265 270

Met Ile Ser Val Phe Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Ile  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Arg Lys Leu

290	295	300	
Val Gly Arg Lys Cys Phe Ser His Arg Gln			
305	310		
<210>	39		
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atg gag ccc acc ttt gcc ctt tta ggt ttc aca gat tac cca aag ctt			48
Met Glu Pro Thr Phe Ala Leu Leu Gly Phe Thr Asp Tyr Pro Lys Leu			
1 5 10 15			
cag att cct ctc ttc ctt gtg ttt ctg ctc atg tat gtt atc aca gtg			96
Gln Ile Pro Leu Phe Leu Val Phe Leu Leu Met Tyr Val Ile Thr Val			
20 25 30			
gta gga aac ctt ggg atg atc ata ata atc aag att aac ccc aaa ttt			144
Val Gly Asn Leu Gly Met Ile Ile Ile Ile Lys Ile Asn Pro Lys Phe			
35 40 45			
cac act cct atg tac ttt ttc ctt agt cac ctc tct ttt gtt gat ttt			192
His Thr Pro Met Tyr Phe Phe Leu Ser His Leu Ser Phe Val Asp Phe			
50 55 60			
tgt tac tct tcc att gtc act ccc aag ctg ctt gag aac ttg gta atg			240
Cys Tyr Ser Ser Ile Val Thr Pro Lys Leu Leu Glu Asn Leu Val Met			
65 70 75 80			
gca gat aaa agc atc ttc tac ttt agc tgc atg atg cag tac ttc ctg			288
Ala Asp Lys Ser Ile Phe Tyr Phe Ser Cys Met Met Gln Tyr Phe Leu			
85 90 95			
tcc tgc act gct gtg gtg aca gag tct ttc ttg ctg gca gtg atg gcc			336
Ser Cys Thr Ala Val Val Thr Glu Ser Phe Leu Leu Ala Val Met Ala			
100 105 110			
tat gac cgc ttt gtg gcc atc tgc aat cct ctg ctt tat aca gtg gcc			384
Tyr Asp Arg Phe Val Ala Ile Cys Asn Pro Leu Leu Tyr Thr Val Ala			
115 120 125			
atg tca cag agg ctc tgt gcc ctg ctg gtg gct ggg tca tat ctc tgg			432
Met Ser Gln Arg Leu Cys Ala Leu Leu Val Ala Gly Ser Tyr Leu Trp			
130 135 140			
ggc atg ttt ggc ccc ttg gta ctc ctt tgt tat gct ctc cgg tta aac			480
Gly Met Phe Gly Pro Leu Val Leu Leu Cys Tyr Ala Leu Arg Leu Asn			
145 150 155 160			
ttc tct gga cct aat gta atc aac cac ttc ttt tgt gag tat act gct			528
Phe Ser Gly Pro Asn Val Ile Asn His Phe Phe Cys Glu Tyr Thr Ala			

	165	170	175	
ctc atc tct gtg tct ggc tct gat ata ctc atc ccc cac ctg ctg ctt				576
Leu Ile Ser Val Ser Gly Ser Asp Ile Leu Ile Pro His Leu Leu Leu				
	180	185	190	
ttc agc ttc gcc acc ttc aat gag atg tgt aca cta ctg atc atc ctc				624
Phe Ser Phe Ala Thr Phe Asn Glu Met Cys Thr Leu Leu Ile Ile Leu				
	195	200	205	
act tcc tat gtt ttc att ttt gtg act gta cta aaa atc cgt tct gtt				672
Thr Ser Tyr Val Phe Ile Phe Val Thr Val Leu Lys Ile Arg Ser Val				
	210	215	220	
agt ggg cgc cac aaa gcc ttc tcc acc tgg gcc tcc cac ctg act gct				720
Ser Gly Arg His Lys Ala Phe Ser Thr Trp Ala Ser His Leu Thr Ala				
	225	230	235	240
atc acc atc ttc cat ggg acc atc ctt ttc ctt tac tgt gta ccc aac				768
Ile Thr Ile Phe His Gly Thr Ile Leu Phe Leu Tyr Cys Val Pro Asn				
	245	250	255	
tcc aaa aac tct cgg caa aca gtc aaa gtg gcc tct gta ttt tac aca				816
Ser Lys Asn Ser Arg Gln Thr Val Lys Val Ala Ser Val Phe Tyr Thr				
	260	265	270	
gtt gtc aac ccc atg ctg aac cct ccg atc tac agc cta agg aat aaa				864
Val Val Asn Pro Met Leu Asn Pro Pro Ile Tyr Ser Leu Arg Asn Lys				
	275	280	285	
gac gtg aag gat gct ttc tgg aag tta ata cat aca caa gtt cca ttt				912
Asp Val Lys Asp Ala Phe Trp Lys Leu Ile His Thr Gln Val Pro Phe				
	290	295	300	
cac tga				918
His				
305				

<210> 40  
 <211> 305  
 <212> PRT  
 <213> Homo Sapiens

<400> 40

Met Glu Pro Thr Phe Ala Leu Leu Gly Phe Thr Asp Tyr Pro Lys Leu			
1	5	10	15
Gln Ile Pro Leu Phe Leu Val Phe Leu Leu Met Tyr Val Ile Thr Val			
20	25	30	
Val Gly Asn Leu Gly Met Ile Ile Ile Ile Lys Ile Asn Pro Lys Phe			
35	40	45	
His Thr Pro Met Tyr Phe Phe Leu Ser His Leu Ser Phe Val Asp Phe			
50	55	60	



Cys Tyr Ser Ser Ile Val Thr Pro Lys Leu Leu Glu Asn Leu Val Met  
 65 70 75 80  
 Ala Asp Lys Ser Ile Phe Tyr Phe Ser Cys Met Met Gln Tyr Phe Leu  
 85 90 95  
 Ser Cys Thr Ala Val Val Thr Glu Ser Phe Leu Leu Ala Val Met Ala  
 100 105 110  
 Tyr Asp Arg Phe Val Ala Ile Cys Asn Pro Leu Leu Tyr Thr Val Ala  
 115 120 125  
 Met Ser Gln Arg Leu Cys Ala Leu Leu Val Ala Gly Ser Tyr Leu Trp  
 130 135 140  
 Gly Met Phe Gly Pro Leu Val Leu Leu Cys Tyr Ala Leu Arg Leu Asn  
 145 150 155 160  
 Phe Ser Gly Pro Asn Val Ile Asn His Phe Phe Cys Glu Tyr Thr Ala  
 165 170 175  
 Leu Ile Ser Val Ser Gly Ser Asp Ile Leu Ile Pro His Leu Leu Leu  
 180 185 190  
 Phe Ser Phe Ala Thr Phe Asn Glu Met Cys Thr Leu Leu Ile Ile Leu  
 195 200 205  
 Thr Ser Tyr Val Phe Ile Phe Val Thr Val Leu Lys Ile Arg Ser Val  
 210 215 220  
 Ser Gly Arg His Lys Ala Phe Ser Thr Trp Ala Ser His Leu Thr Ala  
 225 230 235 240  
 Ile Thr Ile Phe His Gly Thr Ile Leu Phe Leu Tyr Cys Val Pro Asn  
 245 250 255  
 Ser Lys Asn Ser Arg Gln Thr Val Lys Val Ala Ser Val Phe Tyr Thr  
 260 265 270  
 Val Val Asn Pro Met Leu Asn Pro Pro Ile Tyr Ser Leu Arg Asn Lys  
 275 280 285  
 Asp Val Lys Asp Ala Phe Trp Lys Leu Ile His Thr Gln Val Pro Phe  
 290 295 300

His  
305

<210> 41  
<211> 930  
<212> DNA  
<213> Homo Sapiens

<220>  
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<222> (1) .. (927)  
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Met Glu Asn Gln Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr
1                               5                               10                               15

gag aac ctg gag ctg tgg aaa ata ttt tct gct gtg ttt ctt gtc atg      96
Glu Asn Leu Glu Leu Trp Lys Ile Phe Ser Ala Val Phe Leu Val Met
20                               25                               30

tat gta gcc aca gtg ctg gaa aat cta ctt att gtg gta act att atc      144
Tyr Val Ala Thr Val Leu Glu Asn Leu Leu Ile Val Val Thr Ile Ile
35                               40                               45

aca agt cag agt ctg agg tca cct atg tat ttt ttt ctt acc ttc ttg      192
Thr Ser Gln Ser Leu Arg Ser Pro Met Tyr Phe Phe Leu Thr Phe Leu
50                               55                               60

tcc ctt ttg gat gtc atg ttc tca tct gtc gtt gcc ccc aag gtg att      240
Ser Leu Leu Asp Val Met Phe Ser Ser Val Val Ala Pro Lys Val Ile
65                               70                               75                               80

gta gac acc ctc tcc aag agc act acc atc tct ctc aaa ggc tgc ctc      288
Val Asp Thr Leu Ser Lys Ser Thr Thr Ile Ser Leu Lys Gly Cys Leu
85                               90                               95

acc cag ctg ttt gtg gag cat ttc ttt ggt ggt gtg ggg atc atc ctc      336
Thr Gln Leu Phe Val Glu His Phe Phe Gly Gly Val Gly Ile Ile Leu
100                              105                              110

ctc act gtg atg gcc tat gac cgc tac gtg gcc atc tgt aag ccc ctg      384
Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
115                              120                              125

cac tac acg atc atc atg agt cca cgg gtg tgc tgc cta atg gta gga      432
His Tyr Thr Ile Ile Met Ser Pro Arg Val Cys Cys Leu Met Val Gly
130                              135                              140

ggg gct tgg gtg ggg gga ttt atg cac gca atg ata caa ctt ctc ttc      480
Gly Ala Trp Val Gly Gly Phe Met His Ala Met Ile Gln Leu Leu Phe
145                              150                              155                              160

atg tat caa ata ccc ttc tgt ggt cct aat atc ata gat cac ttt ata      528
Met Tyr Gln Ile Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Ile
165                              170                              175

tgt gat ttg ttt cag ttg ttg aca ctt gcc tgc acg gac acc cac atc      576

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Cys Asp Leu Phe Gln Leu Leu Thr Leu Ala Cys Thr Asp Thr His Ile  
 180 185 190  
 ctg ggc ctc tta gtt acc ctc aac agt ggg atg atg tgt gtg gcc atc 624  
 Leu Gly Leu Leu Val Thr Leu Asn Ser Gly Met Met Cys Val Ala Ile  
 195 200 205  
 ttt ctt atc tta att gcg tcc tac acg gtc atc cta tgc tcc ctg aag 672  
 Phe Leu Ile Leu Ile Ala Ser Tyr Thr Val Ile Leu Cys Ser Leu Lys  
 210 215 220  
 tct tac agc tct aaa ggg cgg cac aaa gcc ctc tct acc tgc agc tcc 720  
 Ser Tyr Ser Ser Lys Gly Arg His Lys Ala Leu Ser Thr Cys Ser Ser  
 225 230 235 240  
 cac ctc acg gtg gtt gta ttg ttc ttt gtc ccc tgt att ttc ttg tac 768  
 His Leu Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr  
 245 250 255  
 atg agg cct gtg gtc act cac ccc ata gac aag gca atg gct gtg tca 816  
 Met Arg Pro Val Val Thr His Pro Ile Asp Lys Ala Met Ala Val Ser  
 260 265 270  
 gac tca atc atc aca ccc atg tta aat ccc ttg atc tat aca ctg agg 864  
 Asp Ser Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285  
 aat gca gag gtg aaa agt gcc atg aag aaa ctc tgg atg aaa tgg gag 912  
 Asn Ala Glu Val Lys Ser Ala Met Lys Lys Leu Trp Met Lys Trp Glu  
 290 295 300  
 gct ttg gct ggg aaa taa 930  
 Ala Leu Ala Gly Lys  
 305

<210> 42  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 42

Met Glu Asn Gln Asn Asn Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15

Glu Asn Leu Glu Leu Trp Lys Ile Phe Ser Ala Val Phe Leu Val Met  
20 25 30

Tyr Val Ala Thr Val Leu Glu Asn Leu Leu Ile Val Val Thr Ile Ile  
35 40 45

Thr Ser Gln Ser Leu Arg Ser Pro Met Tyr Phe Phe Leu Thr Phe Leu  
50 55 60

Ser Leu Leu Asp Val Met Phe Ser Ser Val Val Ala Pro Lys Val Ile  
65 70 75 80

Val Asp Thr Leu Ser Lys Ser Thr Thr Ile Ser Leu Lys Gly Cys Leu  
 85 90 95  
 Thr Gln Leu Phe Val Glu His Phe Phe Gly Gly Val Gly Ile Ile Leu  
 100 105 110  
 Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125  
 His Tyr Thr Ile Ile Met Ser Pro Arg Val Cys Cys Leu Met Val Gly  
 130 135 140  
 Gly Ala Trp Val Gly Gly Phe Met His Ala Met Ile Gln Leu Leu Phe  
 145 150 155 160  
 Met Tyr Gln Ile Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Ile  
 165 170 175  
 Cys Asp Leu Phe Gln Leu Leu Thr Leu Ala Cys Thr Asp Thr His Ile  
 180 185 190  
 Leu Gly Leu Leu Val Thr Leu Asn Ser Gly Met Met Cys Val Ala Ile  
 195 200 205  
 Phe Leu Ile Leu Ile Ala Ser Tyr Thr Val Ile Leu Cys Ser Leu Lys  
 210 215 220  
 Ser Tyr Ser Ser Lys Gly Arg His Lys Ala Leu Ser Thr Cys Ser Ser  
 225 230 235 240  
 His Leu Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr  
 245 250 255  
 Met Arg Pro Val Val Thr His Pro Ile Asp Lys Ala Met Ala Val Ser  
 260 265 270  
 Asp Ser Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285  
 Asn Ala Glu Val Lys Ser Ala Met Lys Lys Leu Trp Met Lys Trp Glu  
 290 295 300  
 Ala Leu Ala Gly Lys  
 305

<210> 43  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 43  
 atg ggc aag gaa aac tgc acc act gtg gct gag ttc att ctc ctt gga 48  
 Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 cta tca gat gtc cct gag ttg aga gtc tgc ctc ttc ctg ctg ttc ctt 96  
 Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu  
 20 25 30  
 ctc atc tat gga gtc acg ttg tta gcc aac ctg ggc atg att gca ctg 144  
 Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Ile Ala Leu  
 35 40 45  
 att cag gtc agc tct cgg ctc cac acc ccc atg tac ttt ttc ctc agc 192  
 Ile Gln Val Ser Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 cac ttg tcc tct gta gat ttc tgc tac tcc tca ata att gtg cca aaa 240  
 His Leu Ser Ser Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys  
 65 70 75 80  
 atg ttg gct aat atc ttt aac aag gac aaa gcc atc tcc ttc cta ggg 288  
 Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly  
 85 90 95  
 tgc atg gtg caa ttc tac ttg ttt tgc act tgt gtg gtc act gag gtc 336  
 Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Val Val Thr Glu Val  
 100 105 110  
 ttc ctg ctg gcc gtg atg gcc tat gac cgc ttt gtg gcc atc tgt aac 384  
 Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn  
 115 120 125  
 cct ttg cta tac aca gtc acc atg tct tgg aag gtg cgt gtg gag ctg 432  
 Pro Leu Leu Tyr Thr Val Thr Met Ser Trp Lys Val Arg Val Glu Leu  
 130 135 140  
 gct tct tgc tgc tac ttc tgt ggg acg gtg tgt tct ctg att cat ttg 480  
 Ala Ser Cys Cys Tyr Phe Cys Gly Thr Val Cys Ser Leu Ile His Leu  
 145 150 155 160  
 tgc tta gct ctt agg atc ccc ttc tat aga tct aat gtg att aac cac 528  
 Cys Leu Ala Leu Arg Ile Pro Phe Tyr Arg Ser Asn Val Ile Asn His  
 165 170 175  
 ttt ttc tgt gat cta cct cct gtc tta agt ctt gct tgc tct gat atc 576  
 Phe Phe Cys Asp Leu Pro Pro Val Leu Ser Leu Ala Cys Ser Asp Ile  
 180 185 190

act gtg aat gag aca ctg ctg ttc ctg gtg gcc act ttg aat gag agt 624  
 Thr Val Asn Glu Thr Leu Leu Phe Leu Val Ala Thr Leu Asn Glu Ser  
 195 200 205

gtt acc atc atg atc atc ctc acc tcc tac ctg cta att ctc acc acc 672  
 Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Leu Ile Leu Thr Thr  
 210 215 220

atc ctg aag atg ggc tct gca gag ggc agg cac aaa gcc ttc tcc acc 720  
 Ile Leu Lys Met Gly Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

tgt gct tcc cac ctc aca gct atc act gtc ttc cat gga aca gtc ctt 768  
 Cys Ala Ser His Leu Thr Ala Ile Thr Val Phe His Gly Thr Val Leu  
 245 250 255

tcc att tat tgc agg ccc agt tca ggc aat agt gga gat gct gac aaa 816  
 Ser Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Ala Asp Lys  
 260 265 270

gtg gcc acc gtg ttc tac aca gtc gtg att cct atg ctg aac tct gtg 864  
 Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Ser Val  
 275 280 285

atc tac agc ctg aga aat aaa gat gtg aaa gaa gct ctc aga aaa gtg 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Arg Lys Val  
 290 295 300

atg ggc tcc aaa att cac tcc tag 936  
 Met Gly Ser Lys Ile His Ser  
 305 310

<210> 44  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 44

Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu  
 20 25 30

Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Ile Ala Leu  
 35 40 45

Ile Gln Val Ser Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

His Leu Ser Ser Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys  
 65 70 75 80

Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly

85										90					95						
Cys	Met	Val	Gln	Phe	Tyr	Leu	Phe	Cys	Thr	Cys	Val	Val	Thr	Glu	Val						
			100					105					110								
Phe	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Phe	Val	Ala	Ile	Cys	Asn						
		115					120					125									
Pro	Leu	Leu	Tyr	Thr	Val	Thr	Met	Ser	Trp	Lys	Val	Arg	Val	Glu	Leu						
		130				135					140										
Ala	Ser	Cys	Cys	Tyr	Phe	Cys	Gly	Thr	Val	Cys	Ser	Leu	Ile	His	Leu						
145					150					155				160							
Cys	Leu	Ala	Leu	Arg	Ile	Pro	Phe	Tyr	Arg	Ser	Asn	Val	Ile	Asn	His						
				165					170					175							
Phe	Phe	Cys	Asp	Leu	Pro	Pro	Val	Leu	Ser	Leu	Ala	Cys	Ser	Asp	Ile						
			180					185					190								
Thr	Val	Asn	Glu	Thr	Leu	Leu	Phe	Leu	Val	Ala	Thr	Leu	Asn	Glu	Ser						
		195					200					205									
Val	Thr	Ile	Met	Ile	Ile	Leu	Thr	Ser	Tyr	Leu	Leu	Ile	Leu	Thr	Thr						
		210				215					220										
Ile	Leu	Lys	Met	Gly	Ser	Ala	Glu	Gly	Arg	His	Lys	Ala	Phe	Ser	Thr						
225					230					235				240							
Cys	Ala	Ser	His	Leu	Thr	Ala	Ile	Thr	Val	Phe	His	Gly	Thr	Val	Leu						
				245					250					255							
Ser	Ile	Tyr	Cys	Arg	Pro	Ser	Ser	Gly	Asn	Ser	Gly	Asp	Ala	Asp	Lys						
			260					265					270								
Val	Ala	Thr	Val	Phe	Tyr	Thr	Val	Val	Ile	Pro	Met	Leu	Asn	Ser	Val						
		275					280					285									
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Glu	Ala	Leu	Arg	Lys	Val						
		290				295					300										
Met	Gly	Ser	Lys	Ile	His	Ser															
305					310																
<210>	45																				
<211>	945																				

&lt;212&gt; DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (942)

&lt;223&gt;

&lt;400&gt; 45

atg atg gca tct gaa aga aat caa agc agc aca ccc act ttt att ctc	48
Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu	
1 5 10 15	

ttg ggt ttt tca gaa tac cca gaa atc cag gtt oca ctc ttt ctg gtt	96
Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val	
20 25 30	

ttc ttg ttc gtc tac aca gtc act gta gtg ggg aac ttg ggc atg ata	144
Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile	
35 40 45	

ata atc atc aga ctc aat tca aaa ctc cat aca atc atg tac ttt ttc	192
Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Tyr Phe Phe	
50 55 60	

ctt agt cac ttg tcc ttg aca gac ttc tgt ttt tcc act gta gtt aca	240
Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr	
65 70 75 80	

cct aaa ctg ttg gag aac ttg gtt gtg gaa tac aga acc atc tct ttc	288
Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe	
85 90 95	

tct ggt tgc atc atg caa ttt tgt ttt gct tgc att ttt gga gtg aca	336
Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr	
100 105 110	

gaa act ttc atg tta gca gcg atg gct tat gac cgt ttt gtg gca gtt	384
Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val	
115 120 125	

tgt aaa ccc ttg ctg tat acc act att atg tct cag aag ctc tgt gct	432
Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala	
130 135 140	

ctt ctg gtg gct ggg tcc tat aca tgg ggg ata gtg tgc tcc ctg ata	480
Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile	
145 150 155 160	

ctc aca tat ttt ctt ctt gac tta tcg ttt tgt gaa tct acc ttc ata	528
Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile	
165 170 175	

aat aat ttt atc tgt gac cac tct gta att gtt tct gcc tcc tac tca	576
Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser	
180 185 190	

gac ccc tat atc agc cag agg cta tgc ttt att att gcc ata ttc aat	624
Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn	
195 200 205	



gag gtg agc agc cta att atc att ctg aca tca tat atg ctt att ttc 672  
 Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe  
 210 215 220  
 act acc att atg aag atg cga tct gca agt ggg cgc cag aaa act ttc 720  
 Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe  
 225 230 235 240  
 tcc acc tgt gcc tcc cac ctg aca gcc atc act atc ttc cat gga act 768  
 Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255  
 atc ctt ttc ctt tac tgt gtt cct aat cct aaa act tct agc ctc ata 816  
 Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile  
 260 265 270  
 gtt aca gtg gct tct gtg ttt tac aca gtg gcg att cca atg ctg aac 864  
 Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285  
 cca ttg atc tac agc ctt agg aac aaa gat atc aat aac atg ttt gaa 912  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
 290 295 300  
 aaa tta gtt gtc acc aaa ttg att tac cac tga 945  
 Lys Leu Val Val Thr Lys Leu Ile Tyr His  
 305 310

<210> 46  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 46

Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu  
1 5 10 15

Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val  
20 25 30

Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile  
35 40 45

Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Tyr Phe Phe  
50 55 60

Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr  
65 70 75 80

Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe  
85 90 95

Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr  
 100 105 110

Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val  
 115 120 125

Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala  
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile  
 145 150 155 160

Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile  
 165 170 175

Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser  
 180 185 190

Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn  
 195 200 205

Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe  
 210 215 220

Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe  
 225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255

Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile  
 260 265 270

Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
 290 295 300

Lys Leu Val Val Thr Lys Leu Ile Tyr His  
 305 310

<210> 47

<211> 942

<212> DNA

<213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (939)

&lt;223&gt;

&lt;400&gt; 47

atg ctg ctg aca gat aga aat aca agt ggg acc acg ttc acc ctc ttg	48
Met Leu Leu Thr Asp Arg Asn Thr Ser Gly Thr Thr Phe Thr Leu Leu	
1 5 10 15	
ggc ttc tca gat tac cca gaa ctg caa gtc cca ctc ttc ctg gtt ttt	96
Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe	
20 25 30	
ctg gcc atc tac aat gtc act gtg cta ggg aat att ggg ttg att gtg	144
Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val	
35 40 45	
atc atc aaa atc aac ccc aaa ctg cat acc ccc atg tac ttt ttc ctc	192
Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu	
50 55 60	
agc caa ctc tcc ttt gtg gat ttc tgc tat tcc tcc atc att gct ccc	240
Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro	
65 70 75 80	
aag atg ttg gtg aac ctt gtt gtc aaa gac aga acc att tca ttt tta	288
Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu	
85 90 95	
gga tgc gta gta caa ttc ttt ttc ttc tgt acc ttt gtg gtc act gaa	336
Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu	
100 105 110	
tcc ttt tta tta gct gtg atg gcc tat gac cgc ttc gtg gcc att tgc	384
Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys	
115 120 125	
aac cct ctg ctc tac aca gtt gac atg tcc cag aaa ctc tgc gtg ctg	432
Asn Pro Leu Leu Tyr Thr Val Asp Met Ser Gln Lys Leu Cys Val Leu	
130 135 140	
ctg gtt gtg gga tcc tat gcc tgg gga gtc tca tgt tcc ttg gaa ctg	480
Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu	
145 150 155 160	
acg tgc tct gct tta aag tta tgt ttt cat ggt ttc aac aca atc aat	528
Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn	
165 170 175	
cac ttc ttc tgt gag ttc tcc tca cta ctc tcc ctt tct tgc tct gat	576
His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp	
180 185 190	
act tac atc aac cag tgg ctg cta ttc ttt ctt gcc acc ttt aat gaa	624
Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu	
195 200 205	
atc agc aca cta ctc atc gtt ctc aca tct tat gcg ttc att gtt gta	672
Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val	

210	215	220	
acc atc ctc aag atg cgt tca gtc agt ggg cgc cgc aaa gcc ttc tcc			720
Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser			
225	230	235	240
acc tgt gcc tcc cac ctg act gcc atc acc atc ttc cat ggc acc atc			768
Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile			
	245	250	255
ctc ttc ctt tac tgt gtg ccc aac tcc aaa aac tcc agg cac aca gtc			816
Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val			
	260	265	270
aaa gtg gcc tct gtg ttt tac acc gtg gtg atc ccc atg ttg aat ccc			864
Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro			
	275	280	285
ctg atc tac agt ctg aga aat aaa gat gtc aag gat aca gtc acc gag			912
Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu			
	290	295	300
ata ctg gac acc aaa gtc ttc tct tac tga			942
Ile Leu Asp Thr Lys Val Phe Ser Tyr			
305	310		

<210> 48  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 48

Met Leu Leu Thr Asp Arg Asn Thr Ser Gly Thr Thr Phe Thr Leu Leu			
1	5	10	15
Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe			
	20	25	30
Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val			
	35	40	45
Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu			
	50	55	60
Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro			
65	70	75	80
Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu			
	85	90	95
Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu			
	100	105	110

Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys  
 115 120 125

Asn Pro Leu Leu Tyr Thr Val Asp Met Ser Gln Lys Leu Cys Val Leu  
 130 135 140

Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu  
 145 150 155 160

Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn  
 165 170 175

His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp  
 180 185 190

Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu  
 195 200 205

Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val  
 210 215 220

Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile  
 245 250 255

Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val  
 260 265 270

Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu  
 290 295 300

Ile Leu Asp Thr Lys Val Phe Ser Tyr  
 305 310

<210> 49  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(948)

&lt;223&gt;

&lt;400&gt; 49

atg atc tgt gaa aat cac acc aga gtc act gaa ttt att ctt ctt ggt	48
Met Ile Cys Glu Asn His Thr Arg Val Thr Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ttt aca aac aac ccc gag atg caa gtt tcc ctc ttt att ttt ttc ctg	96
Phe Thr Asn Asn Pro Glu Met Gln Val Ser Leu Phe Ile Phe Phe Leu	
20 25 30	
gcc att tat aca gtc act ttg ttg ggc aac ttt ctt att gtc aca gtt	144
Ala Ile Tyr Thr Val Thr Leu Leu Gly Asn Phe Leu Ile Val Thr Val	
35 40 45	
acc agt gtg gat ctc gca ctt caa aca ccc atg tac ttc ttt ctt caa	192
Thr Ser Val Asp Leu Ala Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln	
50 55 60	
aat ctg tca ctt ctt gaa gta tgt ttc acc ttg gtt atg gtg cca aaa	240
Asn Leu Ser Leu Leu Glu Val Cys Phe Thr Leu Val Met Val Pro Lys	
65 70 75 80	
atg ctt gta gat cta gtg tcc cca agg aaa att atc tct ttt gtg ggc	288
Met Leu Val Asp Leu Val Ser Pro Arg Lys Ile Ile Ser Phe Val Gly	
85 90 95	
tgt ggt acc cag atg tac ttc ttc ttc ttc ttt ggc agt tct gaa tgt	336
Cys Gly Thr Gln Met Tyr Phe Phe Phe Phe Phe Gly Ser Ser Glu Cys	
100 105 110	
ttc ctt ctc tcc atg atg gct tat gat cgc ttt gtg gcc atc tgt aac	384
Phe Leu Leu Ser Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn	
115 120 125	
cct ctc cat tat tca gtc ata atg aac agg tcc cta tgc ttg tgg atg	432
Pro Leu His Tyr Ser Val Ile Met Asn Arg Ser Leu Cys Leu Trp Met	
130 135 140	
gcc ata ggc tct tgg atg tcc ggt gtt cct gtg tct atg cta cag aca	480
Ala Ile Gly Ser Trp Met Ser Gly Val Pro Val Ser Met Leu Gln Thr	
145 150 155 160	
gct tgg atg atg gcc ctt cct ttc tgt gga cca aat gcc gtg gac cac	528
Ala Trp Met Met Ala Leu Pro Phe Cys Gly Pro Asn Ala Val Asp His	
165 170 175	
ttt ttc tgt gat ggt ccc cca gtg tta aaa cta gtc aca gtg gat aca	576
Phe Phe Cys Asp Gly Pro Pro Val Leu Lys Leu Val Thr Val Asp Thr	
180 185 190	
acc atg tat gaa atg caa gca ctt gcc tcc aca ctc ctg ttt atc atg	624
Thr Met Tyr Glu Met Gln Ala Leu Ala Ser Thr Leu Leu Phe Ile Met	
195 200 205	
ttt ccc ttt tgt ctc att ttg gtt tcc tac acc cgc att atc ata aca	672
Phe Pro Phe Cys Leu Ile Leu Val Ser Tyr Thr Arg Ile Ile Ile Thr	
210 215 220	
att ctg agg atg tcc tct gcc act ggc cgc cag aag gca ttt tct act	720

Ile Leu Arg Met Ser Ser Ala Thr Gly Arg Gln Lys Ala Phe Ser Thr  
 225 230 235 240  
 tgt tcc tca cac ctc att gtg gtg tcc ctc ttc tac gga aca gcc agt 768  
 Cys Ser Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Ala Ser  
 245 250 255  
 ctg acc tac ctg cgg ccc aaa tca aac cag tcc cct gag agc aag aag 816  
 Leu Thr Tyr Leu Arg Pro Lys Ser Asn Gln Ser Pro Glu Ser Lys Lys  
 260 265 270  
 cta gtg tca ttg tcc tac act gtc atc aca cct atg cta aac ccc atc 864  
 Leu Val Ser Leu Ser Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile  
 275 280 285  
 atc tac ggc ctg agg aac aat gaa gtg aaa ggg gct gtc aag agg aca 912  
 Ile Tyr Gly Leu Arg Asn Asn Glu Val Lys Gly Ala Val Lys Arg Thr  
 290 295 300  
 atc act caa aaa gtc tta cag aag tta gat gtg ttt tga 951  
 Ile Thr Gln Lys Val Leu Gln Lys Leu Asp Val Phe  
 305 310 315

<210> 50  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 50

Met Ile Cys Glu Asn His Thr Arg Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Phe Thr Asn Asn Pro Glu Met Gln Val Ser Leu Phe Ile Phe Phe Leu  
 20 25 30

Ala Ile Tyr Thr Val Thr Leu Leu Gly Asn Phe Leu Ile Val Thr Val  
 35 40 45

Thr Ser Val Asp Leu Ala Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln  
 50 55 60

Asn Leu Ser Leu Leu Glu Val Cys Phe Thr Leu Val Met Val Pro Lys  
 65 70 75 80

Met Leu Val Asp Leu Val Ser Pro Arg Lys Ile Ile Ser Phe Val Gly  
 85 90 95

Cys Gly Thr Gln Met Tyr Phe Phe Phe Phe Gly Ser Ser Glu Cys  
 100 105 110

Phe Leu Leu Ser Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn  
 115 120 125

Pro Leu His Tyr Ser Val Ile Met Asn Arg Ser Leu Cys Leu Trp Met  
 130 135 140

Ala Ile Gly Ser Trp Met Ser Gly Val Pro Val Ser Met Leu Gln Thr  
 145 150 155 160

Ala Trp Met Met Ala Leu Pro Phe Cys Gly Pro Asn Ala Val Asp His  
 165 170 175

Phe Phe Cys Asp Gly Pro Pro Val Leu Lys Leu Val Thr Val Asp Thr  
 180 185 190

Thr Met Tyr Glu Met Gln Ala Leu Ala Ser Thr Leu Leu Phe Ile Met  
 195 200 205

Phe Pro Phe Cys Leu Ile Leu Val Ser Tyr Thr Arg Ile Ile Ile Thr  
 210 215 220

Ile Leu Arg Met Ser Ser Ala Thr Gly Arg Gln Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Ala Ser  
 245 250 255

Leu Thr Tyr Leu Arg Pro Lys Ser Asn Gln Ser Pro Glu Ser Lys Lys  
 260 265 270

Leu Val Ser Leu Ser Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile  
 275 280 285

Ile Tyr Gly Leu Arg Asn Asn Glu Val Lys Gly Ala Val Lys Arg Thr  
 290 295 300

Ile Thr Gln Lys Val Leu Gln Lys Leu Asp Val Phe  
 305 310 315

<210> 51  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (939)  
 <223>



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<400> 51
atg ggt gac agg gga aca agc aat cac tca gaa atg act gac ttc att      48
Met Gly Asp Arg Gly Thr Ser Asn His Ser Glu Met Thr Asp Phe Ile
1          5          10          15

ctt gca ggc ttc agg gta cgc cca gag ctc cac att ctc ctc ttc ctg      96
Leu Ala Gly Phe Arg Val Arg Pro Glu Leu His Ile Leu Leu Phe Leu
          20          25          30

cta ttt ttg ttt gtt tat gcc atg atc ctt cta ggg aat gtt ggg atg      144
Leu Phe Leu Phe Val Tyr Ala Met Ile Leu Leu Gly Asn Val Gly Met
          35          40          45

atg acc att att atg act gat cct cgg ctg aac aca cca atg tat ttt      192
Met Thr Ile Ile Met Thr Asp Pro Arg Leu Asn Thr Pro Met Tyr Phe
          50          55          60

ttc cta ggc aat ctc tcc ttc att gat ctt ttc tat tca tct gtt att      240
Phe Leu Gly Asn Leu Ser Phe Ile Asp Leu Phe Tyr Ser Ser Val Ile
65          70          75          80

gaa ccc aag gct atg atc aac ttc tgg tct gaa aac aag tct atc tcc      288
Glu Pro Lys Ala Met Ile Asn Phe Trp Ser Glu Asn Lys Ser Ile Ser
          85          90          95

ttt gca ggc tgt gtg gcc cag ctc ttt ctc ttt gcc ctc ctc att gtg      336
Phe Ala Gly Cys Val Ala Gln Leu Phe Leu Phe Ala Leu Leu Ile Val
          100          105          110

act gag gga ttt ctc ctg gcg gcc atg gct tat gac cgc ttt att gcc      384
Thr Glu Gly Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Phe Ile Ala
          115          120          125

atc tgc aac cct ctg ctc tac tct gtt caa atg tcc aca cgt ctg tgt      432
Ile Cys Asn Pro Leu Leu Tyr Ser Val Gln Met Ser Thr Arg Leu Cys
          130          135          140

act cag ttg gtg gct ggt tcc tat ttt tgt ggc tgc att agc tca gtt      480
Thr Gln Leu Val Ala Gly Ser Tyr Phe Cys Gly Cys Ile Ser Ser Val
145          150          155          160

att cag act agc atg aca ttt act tta tct ttt tgc gct tct cgg gct      528
Ile Gln Thr Ser Met Thr Phe Thr Leu Ser Phe Cys Ala Ser Arg Ala
          165          170          175

gtt gac cac ttt tac tgt gat tct cgc cca ctt cag aga ctg tct tgt      576
Val Asp His Phe Tyr Cys Asp Ser Arg Pro Leu Gln Arg Leu Ser Cys
          180          185          190

tct gat ctc ttt atc cat aga atg ata tct ttt tcc tta tca tgt att      624
Ser Asp Leu Phe Ile His Arg Met Ile Ser Phe Ser Leu Ser Cys Ile
          195          200          205

att atc ttg cct act atc ata gtc att ata gta tct tac atg tat att      672
Ile Ile Leu Pro Thr Ile Ile Val Ile Ile Val Ser Tyr Met Tyr Ile
          210          215          220

gtg tcc aca gtt cta aag ata cat tct act gag gga cat aag aag gcc      720
Val Ser Thr Val Leu Lys Ile His Ser Thr Glu Gly His Lys Lys Ala
225          230          235          240

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ttc tcc acc tgc agc tct cac ctg gga gtt gtg agt gtg ctg tat ggt 768  
 Phe Ser Thr Cys Ser Ser His Leu Gly Val Val Ser Val Leu Tyr Gly  
 245 250 255  
 gct gtc ttt ttt atg tat ctc act cct gac aga ttt cct gag ctg agt 816  
 Ala Val Phe Phe Met Tyr Leu Thr Pro Asp Arg Phe Pro Glu Leu Ser  
 260 265 270  
 aaa gtg gca tcc tta tgt tac tcc cta gtc act ccc atg ttg aat cct 864  
 Lys Val Ala Ser Leu Cys Tyr Ser Leu Val Thr Pro Met Leu Asn Pro  
 275 280 285  
 ttg att tac tct ctg agg aac aaa gat gtc caa gag gct cta aaa aaa 912  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Gln Glu Ala Leu Lys Lys  
 290 295 300  
 ttt cta gag aag aaa aat att att ctt tga 942  
 Phe Leu Glu Lys Lys Asn Ile Ile Leu  
 305 310

<210> 52  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 52

Met Gly Asp Arg Gly Thr Ser Asn His Ser Glu Met Thr Asp Phe Ile  
1 5 10 15

Leu Ala Gly Phe Arg Val Arg Pro Glu Leu His Ile Leu Leu Phe Leu  
20 25 30

Leu Phe Leu Phe Val Tyr Ala Met Ile Leu Leu Gly Asn Val Gly Met  
35 40 45

Met Thr Ile Ile Met Thr Asp Pro Arg Leu Asn Thr Pro Met Tyr Phe  
50 55 60

Phe Leu Gly Asn Leu Ser Phe Ile Asp Leu Phe Tyr Ser Ser Val Ile  
65 70 75 80

Glu Pro Lys Ala Met Ile Asn Phe Trp Ser Glu Asn Lys Ser Ile Ser  
85 90 95

Phe Ala Gly Cys Val Ala Gln Leu Phe Leu Phe Ala Leu Leu Ile Val  
100 105 110

Thr Glu Gly Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Phe Ile Ala  
115 120 125

Ile Cys Asn Pro Leu Leu Tyr Ser Val Gln Met Ser Thr Arg Leu Cys

130                                      135                                      140  
 Thr Gln Leu Val Ala Gly Ser Tyr Phe Cys Gly Cys Ile Ser Ser Val  
 145                                      150                                      155                                      160  
 Ile Gln Thr Ser Met Thr Phe Thr Leu Ser Phe Cys Ala Ser Arg Ala  
 165                                      170                                      175  
 Val Asp His Phe Tyr Cys Asp Ser Arg Pro Leu Gln Arg Leu Ser Cys  
 180                                      185                                      190  
 Ser Asp Leu Phe Ile His Arg Met Ile Ser Phe Ser Leu Ser Cys Ile  
 195                                      200                                      205  
 Ile Ile Leu Pro Thr Ile Ile Val Ile Ile Val Ser Tyr Met Tyr Ile  
 210                                      215                                      220  
 Val Ser Thr Val Leu Lys Ile His Ser Thr Glu Gly His Lys Lys Ala  
 225                                      230                                      235                                      240  
 Phe Ser Thr Cys Ser Ser His Leu Gly Val Val Ser Val Leu Tyr Gly  
 245                                      250                                      255  
 Ala Val Phe Phe Met Tyr Leu Thr Pro Asp Arg Phe Pro Glu Leu Ser  
 260                                      265                                      270  
 Lys Val Ala Ser Leu Cys Tyr Ser Leu Val Thr Pro Met Leu Asn Pro  
 275                                      280                                      285  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Gln Glu Ala Leu Lys Lys  
 290                                      295                                      300  
 Phe Leu Glu Lys Lys Asn Ile Ile Leu  
 305                                      310

<210> 53  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(954)  
 <223>

<400> 53  
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 Met Lys Asn Val Thr Glu Val Thr Leu Phe Val Leu Lys Gly Phe Thr

48

1	5	10	15	
gac aat ctt gaa ctg cag act atc ttc ttc ttc ctg ttt cta gca atc				96
Asp Asn Leu Glu Leu Gln Thr Ile Phe Phe Phe Leu Phe Leu Ala Ile				
	20	25	30	
tac ctc ttc act ctc atg gga aat tta gga ctg att tta gtg gtc att				144
Tyr Leu Phe Thr Leu Met Gly Asn Leu Gly Leu Ile Leu Val Val Ile				
	35	40	45	
agg gat tcc cag ctc cac aaa ccc atg tac tat ttt ctg agt atg ttg				192
Arg Asp Ser Gln Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu				
	50	55	60	
tct tct gtg gat gcc tgc tat tcc tca gtt att acc cca aat atg tta				240
Ser Ser Val Asp Ala Cys Tyr Ser Ser Val Ile Thr Pro Asn Met Leu				
	65	70	75	80
gta gat ttt acg aca aag aat aaa gtc att tca ttc ctt gga tgt gta				288
Val Asp Phe Thr Thr Lys Asn Lys Val Ile Ser Phe Leu Gly Cys Val				
	85	90	95	
gca cag gtg ttt ctt gct tgt agt ttt gga acc aca gaa tgc ttt ctc				336
Ala Gln Val Phe Leu Ala Cys Ser Phe Gly Thr Thr Glu Cys Phe Leu				
	100	105	110	
ttg gct gca atg gct tat gat cgc tat gta gcc atc tac aac cct ctc				384
Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu				
	115	120	125	
ctg tat tca gtg agc atg tca ccc aga gtc tac atg cca ctc atc aat				432
Leu Tyr Ser Val Ser Met Ser Pro Arg Val Tyr Met Pro Leu Ile Asn				
	130	135	140	
gct tcc tat gtt gct ggc att tta cat gct act ata cat aca gtg gct				480
Ala Ser Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Thr Val Ala				
	145	150	155	160
aca ttt agc cta tcc ttc tgt gga gcc aat gaa att agg cgt gtc ttt				528
Thr Phe Ser Leu Ser Phe Cys Gly Ala Asn Glu Ile Arg Arg Val Phe				
	165	170	175	
tgt gat atc cct cct ctc ctt gct att tct tat tct gac act cac aca				576
Cys Asp Ile Pro Pro Leu Leu Ala Ile Ser Tyr Ser Asp Thr His Thr				
	180	185	190	
aac cag ctt cta ctc ttc tac ttt gtg ggc tct atc gag ctg gtc act				624
Asn Gln Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Leu Val Thr				
	195	200	205	
atc ctg att gtt ctg atc tcc tat ggt ttg att ctg ttg gcc att ctg				672
Ile Leu Ile Val Leu Ile Ser Tyr Gly Leu Ile Leu Leu Ala Ile Leu				
	210	215	220	
aag atg tat tct gct gaa ggg agg aga aaa gtc ttc tcc aca tgt gga				720
Lys Met Tyr Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly				
	225	230	235	240
gct cac cta act gga gtg tca att tat tat ggg aca atc ctc ttc atg				768
Ala His Leu Thr Gly Val Ser Ile Tyr Tyr Gly Thr Ile Leu Phe Met				
	245	250	255	

tat gtg aga cca agt tcc agc tat gct tcc gac cat gac atg ata gtg 816  
 Tyr Val Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Met Ile Val  
 260 265 270

tca ata ttt tac acc att gtg att ccc ttg ctg aat ccc gtc atc tac 864  
 Ser Ile Phe Tyr Thr Ile Val Ile Pro Leu Leu Asn Pro Val Ile Tyr  
 275 280 285

agt ttg agg aac aaa gat gta aaa gac tca atg aaa aaa atg ttt ggg 912  
 Ser Leu Arg Asn Lys Asp Val Lys Asp Ser Met Lys Lys Met Phe Gly  
 290 295 300

aaa aat cag gtt atc aat aaa gta tat ttt cat act aaa aaa taa 957  
 Lys Asn Gln Val Ile Asn Lys Val Tyr Phe His Thr Lys Lys  
 305 310 315

<210> 54

<211> 318

<212> PRT

<213> Homo Sapiens

<400> 54

Met Lys Asn Val Thr Glu Val Thr Leu Phe Val Leu Lys Gly Phe Thr  
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Asp Asn Leu Glu Leu Gln Thr Ile Phe Phe Phe Leu Phe Leu Ala Ile  
 20 25 30

Tyr Leu Phe Thr Leu Met Gly Asn Leu Gly Leu Ile Leu Val Val Ile  
 35 40 45

Arg Asp Ser Gln Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu  
 50 55 60

Ser Ser Val Asp Ala Cys Tyr Ser Ser Val Ile Thr Pro Asn Met Leu  
 65 70 75 80

Val Asp Phe Thr Thr Lys Asn Lys Val Ile Ser Phe Leu Gly Cys Val  
 85 90 95

Ala Gln Val Phe Leu Ala Cys Ser Phe Gly Thr Thr Glu Cys Phe Leu  
 100 105 110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu  
 115 120 125

Leu Tyr Ser Val Ser Met Ser Pro Arg Val Tyr Met Pro Leu Ile Asn  
 130 135 140

Ala Ser Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Thr Val Ala  
 145 150 155 160

Thr Phe Ser Leu Ser Phe Cys Gly Ala Asn Glu Ile Arg Arg Val Phe  
 165 170 175

Cys Asp Ile Pro Pro Leu Leu Ala Ile Ser Tyr Ser Asp Thr His Thr  
 180 185 190

Asn Gln Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Leu Val Thr  
 195 200 205

Ile Leu Ile Val Leu Ile Ser Tyr Gly Leu Ile Leu Leu Ala Ile Leu  
 210 215 220

Lys Met Tyr Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly  
 225 230 235 240

Ala His Leu Thr Gly Val Ser Ile Tyr Tyr Gly Thr Ile Leu Phe Met  
 245 250 255

Tyr Val Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Met Ile Val  
 260 265 270

Ser Ile Phe Tyr Thr Ile Val Ile Pro Leu Leu Asn Pro Val Ile Tyr  
 275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Asp Ser Met Lys Lys Met Phe Gly  
 290 295 300

Lys Asn Gln Val Ile Asn Lys Val Tyr Phe His Thr Lys Lys  
 305 310 315

<210> 55  
 <211> 969  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(966)  
 <223>

<400> 55  
 atg gac aag ttg tca tca ggt ttg gat ata tac agg aat cca ctg aag 48  
 Met Asp Lys Leu Ser Ser Gly Leu Asp Ile Tyr Arg Asn Pro Leu Lys  
 1 5 10 15

aac aag act gaa gtc acc atg ttt ata ttg aca ggc ttc aca gat gat 96

Asn	Lys	Thr	Glu	Val	Thr	Met	Phe	Ile	Leu	Thr	Gly	Phe	Thr	Asp	Asp	
			20					25					30			
ttt	gag	ctg	caa	gtc	ttc	cta	ttt	tta	cta	ttt	ttt	gca	atc	tat	ctc	144
Phe	Glu	Leu	Gln	Val	Phe	Leu	Phe	Leu	Leu	Phe	Phe	Ala	Ile	Tyr	Leu	
		35					40					45				
ttt	acc	ttg	ata	ggc	aat	tta	ggg	ctg	gtt	gtg	ttg	gtc	att	gag	gat	192
Phe	Thr	Leu	Ile	Gly	Asn	Leu	Gly	Leu	Val	Val	Leu	Val	Ile	Glu	Asp	
	50					55					60					
tcc	tgg	ctc	cac	aac	ccc	atg	tat	tat	ttt	ctt	agt	gtt	tta	tca	ttc	240
Ser	Trp	Leu	His	Asn	Pro	Met	Tyr	Tyr	Phe	Leu	Ser	Val	Leu	Ser	Phe	
65					70					75					80	
ttg	gat	gct	tgc	tat	tct	aca	gtt	gtc	act	cca	aaa	atg	ttg	gtc	aat	288
Leu	Asp	Ala	Cys	Tyr	Ser	Thr	Val	Val	Thr	Pro	Lys	Met	Leu	Val	Asn	
			85						90					95		
ttc	ctg	gca	aaa	aat	aaa	tcc	att	tca	ttt	atc	gga	tgt	gca	aca	cag	336
Phe	Leu	Ala	Lys	Asn	Lys	Ser	Ile	Ser	Phe	Ile	Gly	Cys	Ala	Thr	Gln	
			100					105					110			
atg	ctt	ctt	ttt	gtt	act	ttt	gga	act	aca	gaa	tgt	ttt	ctc	ttg	gct	384
Met	Leu	Leu	Phe	Val	Thr	Phe	Gly	Thr	Thr	Glu	Cys	Phe	Leu	Leu	Ala	
			115				120						125			
gca	atg	gct	tat	gat	cac	tat	gta	gcc	atc	tac	aac	cct	ctc	ctg	tat	432
Ala	Met	Ala	Tyr	Asp	His	Tyr	Val	Ala	Ile	Tyr	Asn	Pro	Leu	Leu	Tyr	
			130			135					140					
tca	gtg	agc	atg	tca	ccc	aga	gtc	tat	gtg	cca	ctc	atc	act	gct	tcc	480
Ser	Val	Ser	Met	Ser	Pro	Arg	Val	Tyr	Val	Pro	Leu	Ile	Thr	Ala	Ser	
145					150					155					160	
tac	gtt	gct	ggc	att	tta	cat	gct	act	ata	cat	ata	gtg	gct	aca	ttt	528
Tyr	Val	Ala	Gly	Ile	Leu	His	Ala	Thr	Ile	His	Ile	Val	Ala	Thr	Phe	
			165						170					175		
agc	ctg	tcc	ttc	tgt	gga	tcc	aat	gaa	att	agg	cat	gtc	ttt	tgt	gat	576
Ser	Leu	Ser	Phe	Cys	Gly	Ser	Asn	Glu	Ile	Arg	His	Val	Phe	Cys	Asp	
			180					185					190			
atg	cct	cct	ctc	ctt	gct	att	tct	tgt	tct	gac	act	cac	aca	aac	cag	624
Met	Pro	Pro	Leu	Leu	Ala	Ile	Ser	Cys	Ser	Asp	Thr	His	Thr	Asn	Gln	
			195				200					205				
ctt	cta	ctc	ttc	tac	ttt	gtg	ggg	tct	att	gag	ata	gtc	act	atc	ctg	672
Leu	Leu	Leu	Phe	Tyr	Phe	Val	Gly	Ser	Ile	Glu	Ile	Val	Thr	Ile	Leu	
			210			215					220					
att	gtc	ctc	att	tcc	tgt	gat	ttc	att	ctg	ttg	tcc	att	ctg	aag	atg	720
Ile	Val	Leu	Ile	Ser	Cys	Asp	Phe	Ile	Leu	Leu	Ser	Ile	Leu	Lys	Met	
225					230					235					240	
cat	tct	gct	aag	gga	agg	caa	aag	gcc	ttc	tct	aca	tgt	ggc	tct	cac	768
His	Ser	Ala	Lys	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	Gly	Ser	His	
				245				250						255		
cta	act	gga	gtg	aca	att	tat	cat	gga	aca	att	ctc	gtc	agt	tat	atg	816
Leu	Thr	Gly	Val	Thr	Ile	Tyr	His	Gly	Thr	Ile	Leu	Val	Ser	Tyr	Met	

260	265	270	
aga cca agt tcc agc tat gct tca gac cat gac atc ata gtg tca ata			864
Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Ile Ile Val Ser Ile			
275	280	285	
ttt tac aca att gtg att ccc aag ttg aat ccc atc atc tat agt ttg			912
Phe Tyr Thr Ile Val Ile Pro Lys Leu Asn Pro Ile Ile Tyr Ser Leu			
290	295	300	
agg aac aaa gaa gta aaa aag gca gtg aag aaa atg ttg aaa ttg gtt			960
Arg Asn Lys Glu Val Lys Lys Ala Val Lys Lys Met Leu Lys Leu Val			
305	310	315	320
tac aaa tga			969
Tyr Lys			

<210> 56  
 <211> 322  
 <212> PRT  
 <213> Homo Sapiens

<400> 56

Met Asp Lys Leu Ser Ser Gly Leu Asp Ile Tyr Arg Asn Pro Leu Lys			
1	5	10	15
Asn Lys Thr Glu Val Thr Met Phe Ile Leu Thr Gly Phe Thr Asp Asp			
20	25	30	
Phe Glu Leu Gln Val Phe Leu Phe Leu Leu Phe Phe Ala Ile Tyr Leu			
35	40	45	
Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Leu Val Ile Glu Asp			
50	55	60	
Ser Trp Leu His Asn Pro Met Tyr Tyr Phe Leu Ser Val Leu Ser Phe			
65	70	75	80
Leu Asp Ala Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu Val Asn			
85	90	95	
Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Ile Gly Cys Ala Thr Gln			
100	105	110	
Met Leu Leu Phe Val Thr Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala			
115	120	125	
Ala Met Ala Tyr Asp His Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr			
130	135	140	



Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser  
145 150 155 160

Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Ile Val Ala Thr Phe  
165 170 175

Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asp  
180 185 190

Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Thr Asn Gln  
195 200 205

Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu  
210 215 220

Ile Val Leu Ile Ser Cys Asp Phe Ile Leu Leu Ser Ile Leu Lys Met  
225 230 235 240

His Ser Ala Lys Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly Ser His  
245 250 255

Leu Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Val Ser Tyr Met  
260 265 270

Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Ile Ile Val Ser Ile  
275 280 285

Phe Tyr Thr Ile Val Ile Pro Lys Leu Asn Pro Ile Ile Tyr Ser Leu  
290 295 300

Arg Asn Lys Glu Val Lys Lys Ala Val Lys Lys Met Leu Lys Leu Val  
305 310 315 320

Tyr Lys

<210> 57  
<211> 960  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (957)  
<223>

<400> 57

atg aat cat gtg gta aaa cac aat cac acg gca gtg acc aag gtg act	48
Met Asn His Val Val Lys His Asn His Thr Ala Val Thr Lys Val Thr	
1 5 10 15	
gaa ttt att ctg atg ggg att aca gac aac cct ggg ctg cag gct cca	96
Glu Phe Ile Leu Met Gly Ile Thr Asp Asn Pro Gly Leu Gln Ala Pro	
20 25 30	
ctg ttt gga ctg ttc ctg atc ata tat ctg gtc aca gtg ata ggc aat	144
Leu Phe Gly Leu Phe Leu Ile Ile Tyr Leu Val Thr Val Ile Gly Asn	
35 40 45	
ctg ggc atg gtt atc ttg acc tac ttg gac tcc aag cta cac acc ccc	192
Leu Gly Met Val Ile Leu Thr Tyr Leu Asp Ser Lys Leu His Thr Pro	
50 55 60	
atg tac ttt ttc ctt aga cat ttg tca atc act gat ctt ggt tac tcc	240
Met Tyr Phe Phe Leu Arg His Leu Ser Ile Thr Asp Leu Gly Tyr Ser	
65 70 75 80	
act gtc att gcc ccg aag atg tta gta aac ttc ata gtg cac aaa aac	288
Thr Val Ile Ala Pro Lys Met Leu Val Asn Phe Ile Val His Lys Asn	
85 90 95	
aca att tct tac aat tgg tat gcc act cag cta gca ttc ttt gag att	336
Thr Ile Ser Tyr Asn Trp Tyr Ala Thr Gln Leu Ala Phe Phe Glu Ile	
100 105 110	
ttc atc atc tct gag ctg ttt att cta tca gca atg gcc tat gat cgc	384
Phe Ile Ile Ser Glu Leu Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg	
115 120 125	
tac gta gcc atc tgt aaa cct ctt ctg tac gtg atc atc atg gca gag	432
Tyr Val Ala Ile Cys Lys Pro Leu Leu Tyr Val Ile Ile Met Ala Glu	
130 135 140	
aaa gta ctt tgg gtg ctg gta att gtt ccc tat ctg tat agc acg ttt	480
Lys Val Leu Trp Val Leu Val Ile Val Pro Tyr Leu Tyr Ser Thr Phe	
145 150 155 160	
gtg tca cta ttt ctg aca att aag tta ttt aaa ctg tcc ttc tgt ggc	528
Val Ser Leu Phe Leu Thr Ile Lys Leu Phe Lys Leu Ser Phe Cys Gly	
165 170 175	
tca aac ata atc agc tat ttt tac tgt gac tgt atc cct ctg atg tcc	576
Ser Asn Ile Ile Ser Tyr Phe Tyr Cys Asp Cys Ile Pro Leu Met Ser	
180 185 190	
ata ctg tgt tct gac aca aat gaa tta gaa tta ata att ttg atc ttc	624
Ile Leu Cys Ser Asp Thr Asn Glu Leu Glu Leu Ile Ile Leu Ile Phe	
195 200 205	
tca ggc tgt aat ttg ctg ttc tcc ctg tca att gtt ctg ata tcc tac	672
Ser Gly Cys Asn Leu Leu Phe Ser Leu Ser Ile Val Leu Ile Ser Tyr	
210 215 220	
atg ttt att cta gtg gcc att ctg aga atg aac tca agg aaa ggg agg	720
Met Phe Ile Leu Val Ala Ile Leu Arg Met Asn Ser Arg Lys Gly Arg	
225 230 235 240	
tac aaa gcc ttc tcc acc tgt agc tct cat ctg aca gtg gtg atc atg	768

Tyr Lys Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Ile Met  
 245 250 255  
 ttc tat ggg aca ttg tta ttt att tac ttg caa ccc aag tcc agt cat 816  
 Phe Tyr Gly Thr Leu Leu Phe Ile Tyr Leu Gln Pro Lys Ser Ser His  
 260 265 270  
 act ttg gct att gat aaa atg gcc tca gtg ttt tat acc ctg ttg att 864  
 Thr Leu Ala Ile Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Leu Ile  
 275 280 285  
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 Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys  
 290 295 300  
 gat gct cta aag aga act tta acc aat cga ttc aaa att ccc att taa 960  
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 Leu Phe Gly Leu Phe Leu Ile Ile Tyr Leu Val Thr Val Ile Gly Asn  
 35 40 45  
  
 Leu Gly Met Val Ile Leu Thr Tyr Leu Asp Ser Lys Leu His Thr Pro  
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 Met Tyr Phe Phe Leu Arg His Leu Ser Ile Thr Asp Leu Gly Tyr Ser  
 65 70 75 80  
  
 Thr Val Ile Ala Pro Lys Met Leu Val Asn Phe Ile Val His Lys Asn  
 85 90 95  
  
 Thr Ile Ser Tyr Asn Trp Tyr Ala Thr Gln Leu Ala Phe Phe Glu Ile  
 100 105 110  
  
 Phe Ile Ile Ser Glu Leu Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg  
 115 120 125  
  
 Tyr Val Ala Ile Cys Lys Pro Leu Leu Tyr Val Ile Ile Met Ala Glu  
 130 135 140

Lys Val Leu Trp Val Leu Val Ile Val Pro Tyr Leu Tyr Ser Thr Phe  
145 150 155 160

Val Ser Leu Phe Leu Thr Ile Lys Leu Phe Lys Leu Ser Phe Cys Gly  
165 170 175

Ser Asn Ile Ile Ser Tyr Phe Tyr Cys Asp Cys Ile Pro Leu Met Ser  
180 185 190

Ile Leu Cys Ser Asp Thr Asn Glu Leu Glu Leu Ile Ile Leu Ile Phe  
195 200 205

Ser Gly Cys Asn Leu Leu Phe Ser Leu Ser Ile Val Leu Ile Ser Tyr  
210 215 220

Met Phe Ile Leu Val Ala Ile Leu Arg Met Asn Ser Arg Lys Gly Arg  
225 230 235 240

Tyr Lys Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Ile Met  
245 250 255

Phe Tyr Gly Thr Leu Leu Phe Ile Tyr Leu Gln Pro Lys Ser Ser His  
260 265 270

Thr Leu Ala Ile Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Leu Ile  
275 280 285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys  
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Asp Ala Leu Lys Arg Thr Leu Thr Asn Arg Phe Lys Ile Pro Ile  
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1 5 10 15

48

atc	aca	gat	atc	gct	gag	ctg	cag	gca	cca	tta	ttt	gca	ttg	ttc	ctc	96
Ile	Thr	Asp	Ile	Ala	Glu	Leu	Gln	Ala	Pro	Leu	Phe	Ala	Leu	Phe	Leu	
			20					25					30			
atg	atc	tat	gtg	atc	tca	gtg	atg	ggc	aat	ttg	ggc	atg	att	gtc	ctc	144
Met	Ile	Tyr	Val	Ile	Ser	Val	Met	Gly	Asn	Leu	Gly	Met	Ile	Val	Leu	
		35					40					45				
acc	aag	ttg	gac	tcc	agg	ttg	caa	acc	cct	atg	tac	ttt	ttt	ctc	aga	192
Thr	Lys	Leu	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg	
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cat	ctg	gct	ttc	atg	gat	ctt	ggg	tat	tca	aca	act	gtg	gga	ccc	aaa	240
His	Leu	Ala	Phe	Met	Asp	Leu	Gly	Tyr	Ser	Thr	Thr	Val	Gly	Pro	Lys	
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atg	tta	gta	aat	ttt	gtt	gtg	gat	aag	aat	ata	att	tct	tat	tat	ttt	288
Met	Leu	Val	Asn	Phe	Val	Val	Asp	Lys	Asn	Ile	Ile	Ser	Tyr	Tyr	Phe	
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tgt	gca	aca	cag	cta	gct	ttc	ttt	ctt	gtg	ttc	att	ggg	agt	gaa	ctt	336
Cys	Ala	Thr	Gln	Leu	Ala	Phe	Phe	Leu	Val	Phe	Ile	Gly	Ser	Glu	Leu	
			100					105					110			
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Phe	Ile	Leu	Ser	Ala	Met	Ser	Tyr	Asp	Leu	Tyr	Val	Ala	Ile	Cys	Asn	
		115					120					125				
cct	ctg	cta	tac	aca	gta	atc	atg	tca	cga	agg	gta	tgt	cag	gtg	ctg	432
Pro	Leu	Leu	Tyr	Thr	Val	Ile	Met	Ser	Arg	Arg	Val	Cys	Gln	Val	Leu	
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gta	gca	atc	cct	tac	ctc	tat	tgc	aca	ttc	att	tct	ctt	cta	gtc	acc	480
Val	Ala	Ile	Pro	Tyr	Leu	Tyr	Cys	Thr	Phe	Ile	Ser	Leu	Leu	Val	Thr	
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Ile	Lys	Ile	Phe	Thr	Leu	Ser	Phe	Cys	Gly	Tyr	Asn	Val	Ile	Ser	His	
				165					170					175		
ttc	tac	tgt	gac	agt	ctc	cct	ttg	tta	cct	ttg	ctt	tgt	tca	aat	aca	576
Phe	Tyr	Cys	Asp	Ser	Leu	Pro	Leu	Leu	Pro	Leu	Leu	Cys	Ser	Asn	Thr	
			180					185					190			
cat	gaa	att	gaa	ttg	ata	att	ctg	atc	ttt	gca	gct	att	gat	ttg	att	624
His	Glu	Ile	Glu	Leu	Ile	Ile	Leu	Ile	Phe	Ala	Ala	Ile	Asp	Leu	Ile	
		195					200					205				
tca	tct	ctt	ctg	ata	gtt	ctt	tta	tct	tac	ctg	ctc	atc	ctt	gta	gcc	672
Ser	Ser	Leu	Leu	Ile	Val	Leu	Leu	Ser	Tyr	Leu	Leu	Ile	Leu	Val	Ala	
	210					215						220				
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Ile	Leu	Arg	Met	Asn	Ser	Ala	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	
225					230					235					240	
gga	gcc	cac	ctg	aca	gtg	gtc	ata	gtg	ttc	tat	ggg	act	ttg	ctt	ttc	768
Gly	Ala	His	Leu	Thr	Val	Val	Ile	Val	Phe	Tyr	Gly	Thr	Leu	Leu	Phe	
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atg tac gtg cag ccc aag tcc agt cat tcc ttt gac act gat aaa gtg 816  
 Met Tyr Val Gln Pro Lys Ser Ser His Ser Phe Asp Thr Asp Lys Val  
 260 265 270

gct tcc ata ttt tac acc ctg gtt atc ccc atg ttg aat ccc ttg atc 864  
 Ala Ser Ile Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285

tat agt tta cga aac aaa gat gta aaa tat gcc cta cga agg aca tgg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Tyr Ala Leu Arg Arg Thr Trp  
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aat aac tta tgt aat att ttt gtt taa 939  
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Met Ile Tyr Val Ile Ser Val Met Gly Asn Leu Gly Met Ile Val Leu  
 35 40 45

Thr Lys Leu Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg  
 50 55 60

His Leu Ala Phe Met Asp Leu Gly Tyr Ser Thr Thr Val Gly Pro Lys  
 65 70 75 80

Met Leu Val Asn Phe Val Val Asp Lys Asn Ile Ile Ser Tyr Tyr Phe  
 85 90 95

Cys Ala Thr Gln Leu Ala Phe Phe Leu Val Phe Ile Gly Ser Glu Leu  
 100 105 110

Phe Ile Leu Ser Ala Met Ser Tyr Asp Leu Tyr Val Ala Ile Cys Asn  
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1              5              10              15

ctg tca gat tct gaa gag gtc cag atg gcc ctc ttt ata cta ttt ctc      96
Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Ile Leu Phe Leu

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ctg ata tac cta att act atg	ctg ggc aat gtg ggg atg	ata ttg ata	144
Leu Ile Tyr Leu Ile Thr Met	Leu Gly Asn Val Gly Met	Ile Leu Ile	
35	40	45	
atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt act			192
Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu Thr			
50	55	60	
cac ttg tca ttt att gac ctc agt tac tca act gtc atc aca cct aaa			240
His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Ile Thr Pro Lys			
65	70	75	80
acc tta gcg aac tta ctg act tcc aac tat att tcc ttc atg ggc tgc			288
Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Met Gly Cys			
85	90	95	
ttt gcc cag atg ttc ttt ttt gtc ttc ttg gga gct gct gaa tgt ttt			336
Phe Ala Gln Met Phe Phe Phe Val Phe Leu Gly Ala Ala Glu Cys Phe			
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ctt ctc tca tca atg gcc tat gat cgc tac gta gct atc tgc agt cct			384
Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro			
115	120	125	
cta cgt tac cca gtt att atg tcc aaa agg ctg tgt tgc gct ctt gtc			432
Leu Arg Tyr Pro Val Ile Met Ser Lys Arg Leu Cys Cys Ala Leu Val			
130	135	140	
act ggg ccc tat gtg att agc ttt atc aac tcc ttt gtc aat gtg gtt			480
Thr Gly Pro Tyr Val Ile Ser Phe Ile Asn Ser Phe Val Asn Val Val			
145	150	155	160
tgg atg agc aga ctg cat ttc tgc gac tca aat gta gtt cgt cac ttt			528
Trp Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Val Arg His Phe			
165	170	175	
ttc tgc gac acg tct cca att tta gct ctg tcc tgc atg gac aca tac			576
Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Met Asp Thr Tyr			
180	185	190	
gac att gaa atc atg ata cac att tta gct ggt tcc acc ctg atg gtg			624
Asp Ile Glu Ile Met Ile His Ile Leu Ala Gly Ser Thr Leu Met Val			
195	200	205	
tcc ctt atc aca ata tct gca tcc tat gtg tcc att ctc tct acc atc			672
Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr Ile			
210	215	220	
ctg aaa att aat tcc act tca gga aag cag aaa gct ttg tct act tgt			720
Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Leu Ser Thr Cys			
225	230	235	240
gcc tct cat ctc ttg gga gtc acc atc ttt tat gga act atg att ttt			768
Ala Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile Phe			
245	250	255	
act tat tta aaa cca aga aag tct tat tct ttg gga agg gat caa gtg			816
Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln Val			
260	265	270	



gct tct gtt ttt tat act att gtg att ccc atg ctg aat cca ctc att 864  
 Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
           275                                  280                                  285

tat agt ctt aga aac aaa gaa gtt aaa aat gct ctc att aga gtc atg 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Leu Ile Arg Val Met  
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cag aga aga cag gac tcc agg taa 936  
 Gln Arg Arg Gln Asp Ser Arg  
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                                   20                                  25                                  30

Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu Ile  
           35                                  40                                  45

Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
           50                                  55                                  60

His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Ile Thr Pro Lys  
 65                                  70                                  75                                  80

Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Met Gly Cys  
                                   85                                  90                                  95

Phe Ala Gln Met Phe Phe Phe Val Phe Leu Gly Ala Ala Glu Cys Phe  
                                   100                                  105                                  110

Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro  
           115                                  120                                  125

Leu Arg Tyr Pro Val Ile Met Ser Lys Arg Leu Cys Cys Ala Leu Val  
           130                                  135                                  140

Thr Gly Pro Tyr Val Ile Ser Phe Ile Asn Ser Phe Val Asn Val Val  
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Trp Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Val Arg His Phe  
 165 170 175

Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Met Asp Thr Tyr  
 180 185 190

Asp Ile Glu Ile Met Ile His Ile Leu Ala Gly Ser Thr Leu Met Val  
 195 200 205

Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr Ile  
 210 215 220

Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Leu Ser Thr Cys  
 225 230 235 240

Ala Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile Phe  
 245 250 255

Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln Val  
 260 265 270

Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
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Gln Arg Arg Gln Asp Ser Arg  
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 gtc tct agc tgt cca gag ctc cag att ccc ctc ttc ctg gtc ttt ctg 96  
 Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu  
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 gtg ctc tat ggg ctg acc atg gca ggg aac ctg ggc atc atc acc ctc 144

Val	Leu	Tyr	Gly	Leu	Thr	Met	Ala	Gly	Asn	Leu	Gly	Ile	Ile	Thr	Leu		
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Thr	Ser	Val	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gln		
	50					55					60						
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His	Leu	Ala	Leu	Ile	Asn	Leu	Gly	Asn	Ser	Thr	Val	Ile	Ala	Pro	Lys		
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atg	ctg	att	aac	ttt	tta	gta	aag	aag	aaa	act	acc	tca	ttc	tat	gaa	288	
Met	Leu	Ile	Asn	Phe	Leu	Val	Lys	Lys	Lys	Thr	Thr	Ser	Phe	Tyr	Glu		
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tgt	gcc	acc	caa	ctg	gga	ggg	ttc	ttg	ttc	ttt	att	gta	tcg	gag	gta	336	
Cys	Ala	Thr	Gln	Leu	Gly	Gly	Phe	Leu	Phe	Phe	Ile	Val	Ser	Glu	Val		
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Ile	Met	Leu	Ala	Leu	Met	Ala	Cys	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		
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Pro	Leu	Leu	Tyr	Met	Val	Val	Val	Ser	Arg	Arg	Leu	Cys	Leu	Leu	Leu		
	130					135					140						
gtc	tcc	ctc	aca	tac	ctc	tat	ggc	ttt	tct	aca	gct	att	gtg	gtt	tca	480	
Val	Ser	Leu	Thr	Tyr	Leu	Tyr	Gly	Phe	Ser	Thr	Ala	Ile	Val	Val	Ser		
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Ser	Tyr	Val	Phe	Ser	Val	Ser	Tyr	Cys	Ser	Ser	Asn	Ile	Ile	Asn	His		
			165						170					175			
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Phe	Tyr	Cys	Asp	Asn	Val	Pro	Leu	Leu	Ala	Leu	Ser	Cys	Ser	Asp	Thr		
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tac	tta	cca	gaa	aca	gtt	gtc	ttt	ata	tct	gca	gca	aca	aat	gtg	gtt	624	
Tyr	Leu	Pro	Glu	Thr	Val	Val	Phe	Ile	Ser	Ala	Ala	Thr	Asn	Val	Val		
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ggg	tcc	ttg	att	ata	gtt	cta	gta	tct	tat	ttc	aat	att	gtt	ttg	tct	672	
Gly	Ser	Leu	Ile	Ile	Val	Leu	Val	Ser	Tyr	Phe	Asn	Ile	Val	Leu	Ser		
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Ile	Leu	Lys	Ile	Cys	Ser	Ser	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr		
	225				230					235					240		
tgt	gct	tca	cat	atg	atg	gca	gtc	aca	att	ttt	tat	ggg	aca	ttg	cta	768	
Cys	Ala	Ser	His	Met	Met	Ala	Val	Thr	Ile	Phe	Tyr	Gly	Thr	Leu	Leu		
				245					250					255			
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Phe	Met	Tyr	Val	Gln	Pro	Arg	Ser	Asn	His	Ser	Leu	Asp	Thr	Asp	Asp		
			260					265					270				
aag	atg	gct	tct	gtg	ttt	tac	acg	ttg	gta	att	cct	atg	ctg	aat	ccc	864	
Lys	Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro		

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Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Gln Arg			
290	295	300	
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Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr Met			
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Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu			
	35	40	45
Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln			
	50	55	60
His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys			
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Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu			
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Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val			
	100	105	110
Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Asn			
	115	120	125
Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu			
	130	135	140
Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser			
145	150	155	160
Ser Tyr Val Ph Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His			
	165	170	175

Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
 180 185 190

Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala Ala Thr Asn Val Val  
 195 200 205

Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser  
 210 215 220

Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Met Met Ala Val Thr Ile Phe Tyr Gly Thr Leu Leu  
 245 250 255

Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser Leu Asp Thr Asp Asp  
 260 265 270

Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Gln Arg  
 290 295 300

Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr Met  
 305 310 315

<210> 65  
 <211> 987  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(984)  
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 Met Lys Leu Trp Met Glu Ser His Leu Ile Val Pro Glu Thr Arg Pro  
 1 5 10 15  
 agc cca agg atg atg agt aac cag acg ttg gta acc gag ttc atc ctg 96  
 Ser Pro Arg Met Met Ser Asn Gln Thr Leu Val Thr Glu Phe Ile Leu  
 20 25 30  
 cag ggc ttt tcg gag cac cca gaa tac cgg gtg ttc tta ttc agc tgt 144  
 Gln Gly Phe Ser Glu His Pro Glu Tyr Arg Val Phe Leu Phe Ser Cys  
 35 40 45

ttc ctc ttc ctc tac tct ggg gcc ctc aca ggt aat gtc ctc atc acc	192
Phe Leu Phe Leu Tyr Ser Gly Ala Leu Thr Gly Asn Val Leu Ile Thr	
50 55 60	
ttg gcc atc acg ttc aac cct ggg ctc cac gct cct atg tac ttt ttc	240
Leu Ala Ile Thr Phe Asn Pro Gly Leu His Ala Pro Met Tyr Phe Phe	
65 70 75 80	
tta ctc aac ttg gct act atg gac att atc tgc acc tct tcc atc atg	288
Leu Leu Asn Leu Ala Thr Met Asp Ile Ile Cys Thr Ser Ser Ile Met	
85 90 95	
ccc aag gcg ctg gcc agt ctg gtg tgc gaa gag agc tcc atc tcc tac	336
Pro Lys Ala Leu Ala Ser Leu Val Ser Glu Glu Ser Ser Ile Ser Tyr	
100 105 110	
ggg ggc tgc atg gcc cag ctc tat ttc ctc acg tgg gct gca tcc tca	384
Gly Gly Cys Met Ala Gln Leu Tyr Phe Leu Thr Trp Ala Ala Ser Ser	
115 120 125	
gag ctg ctg ctc ctc acg gtc atg gcc tat gac cgg tac gca gcc atc	432
Glu Leu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile	
130 135 140	
tgc cac ccg ctg cat tac agc agc atg atg agc aag gtg ttc tgc agc	480
Cys His Pro Leu His Tyr Ser Ser Met Met Ser Lys Val Phe Cys Ser	
145 150 155 160	
ggg ctg gcc aca gcc gtg tgg ctg ctc tgc gcc gtc aac acg gcc atc	528
Gly Leu Ala Thr Ala Val Trp Leu Leu Cys Ala Val Asn Thr Ala Ile	
165 170 175	
cac acg ggg ctg atg ctg cgc ttg gat ttc tgt ggc ccc aat gtc att	576
His Thr Gly Leu Met Leu Arg Leu Asp Phe Cys Gly Pro Asn Val Ile	
180 185 190	
atc cat ttc ttc tgc gag gtc cct ccc ctg ctg ctt ctc tcc tgc agc	624
Ile His Phe Phe Cys Glu Val Pro Pro Leu Leu Leu Ser Cys Ser	
195 200 205	
tcc acc tac gtc aac ggt gtc atg att gtc ctg gcg gat gct ttc tac	672
Ser Thr Tyr Val Asn Gly Val Met Ile Val Leu Ala Asp Ala Phe Tyr	
210 215 220	
ggc ata gtg aac ttc ctg atg acc atc gcg tcc tat ggc ttc atc gtc	720
Gly Ile Val Asn Phe Leu Met Thr Ile Ala Ser Tyr Gly Phe Ile Val	
225 230 235 240	
tcc agc atc ctg aag gtg aag act gcc tgg ggg agg cag aaa gcc ttc	768
Ser Ser Ile Leu Lys Val Lys Thr Ala Trp Gly Arg Gln Lys Ala Phe	
245 250 255	
tcc acc tgc tct tcc cac ctc acc gtg gtg tgc atg tat tac acc gct	816
Ser Thr Cys Ser Ser His Leu Thr Val Val Cys Met Tyr Tyr Thr Ala	
260 265 270	
gtc ttc tac gcc tac ata agc ccg gtc tct ggc tac agc gca ggg aag	864
Val Phe Tyr Ala Tyr Ile Ser Pro Val Ser Gly Tyr Ser Ala Gly Lys	
275 280 285	
agc aag ttg gct ggc ctg ctg tac act gtg ctg agt cct acc ctc aac	912

Ser Lys Leu Ala Gly Leu Leu Tyr Thr Val Leu Ser Pro Thr Leu Asn  
 290 295 300

ccc ctc atc tat act ttg aga aac aag gag gtc aaa gca gcc ctc agg 960  
 Pro Leu Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Leu Arg  
 305 310 315 320

aag ctt ttc cct ttc ttc aga aat taa 987  
 Lys Leu Phe Pro Phe Phe Arg Asn  
 325

<210> 66  
 <211> 328  
 <212> PRT  
 <213> Homo Sapiens

<400> 66

Met Lys Leu Trp Met Glu Ser His Leu Ile Val Pro Glu Thr Arg Pro  
 1 5 10 15

Ser Pro Arg Met Met Ser Asn Gln Thr Leu Val Thr Glu Phe Ile Leu  
 20 25 30

Gln Gly Phe Ser Glu His Pro Glu Tyr Arg Val Phe Leu Phe Ser Cys  
 35 40 45

Phe Leu Phe Leu Tyr Ser Gly Ala Leu Thr Gly Asn Val Leu Ile Thr  
 50 55 60

Leu Ala Ile Thr Phe Asn Pro Gly Leu His Ala Pro Met Tyr Phe Phe  
 65 70 75 80

Leu Leu Asn Leu Ala Thr Met Asp Ile Ile Cys Thr Ser Ser Ile Met  
 85 90 95

Pro Lys Ala Leu Ala Ser Leu Val Ser Glu Glu Ser Ser Ile Ser Tyr  
 100 105 110

Gly Gly Cys Met Ala Gln Leu Tyr Phe Leu Thr Trp Ala Ala Ser Ser  
 115 120 125

Glu Leu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile  
 130 135 140

Cys His Pro Leu His Tyr Ser Ser Met Met Ser Lys Val Phe Cys Ser  
 145 150 155 160

Gly Leu Ala Thr Ala Val Trp Leu Leu Cys Ala Val Asn Thr Ala Ile  
 165 170 175

His Thr Gly Leu Met Leu Arg Leu Asp Phe Cys Gly Pro Asn Val Ile  
180 185 190

Ile His Phe Phe Cys Glu Val Pro Pro Leu Leu Leu Leu Ser Cys Ser  
195 200 205

Ser Thr Tyr Val Asn Gly Val Met Ile Val Leu Ala Asp Ala Phe Tyr  
210 215 220

Gly Ile Val Asn Phe Leu Met Thr Ile Ala Ser Tyr Gly Phe Ile Val  
225 230 235 240

Ser Ser Ile Leu Lys Val Lys Thr Ala Trp Gly Arg Gln Lys Ala Phe  
245 250 255

Ser Thr Cys Ser Ser His Leu Thr Val Val Cys Met Tyr Tyr Thr Ala  
260 265 270

Val Phe Tyr Ala Tyr Ile Ser Pro Val Ser Gly Tyr Ser Ala Gly Lys  
275 280 285

Ser Lys Leu Ala Gly Leu Leu Tyr Thr Val Leu Ser Pro Thr Leu Asn  
290 295 300

Pro Leu Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Leu Arg  
305 310 315 320

Lys Leu Phe Pro Phe Phe Arg Asn  
325

<210> 67  
<211> 960  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
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Met Thr Pro Gly Glu Leu Ala Leu Ala Ser Gly Asn His Thr Pro Val  
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acc aag ttc atc ttg cag gga ttc tcc aat tat cca gac ctc cag gag 96  
Thr Lys Phe Ile Leu Gln Gly Phe Ser Asn Tyr Pro Asp Leu Gln Glu  
20 25 30



ctt ctc ttc gga gcc atc ctg ctc atc tat gcc ata aca gtg gtg ggc	144
Leu Leu Phe Gly Ala Ile Leu Leu Ile Tyr Ala Ile Thr Val Val Gly	
35 40 45	
aac ttg gga atg atg gca ctc atc ttc aca gac tcc cat ctc caa agc	192
Asn Leu Gly Met Met Ala Leu Ile Phe Thr Asp Ser His Leu Gln Ser	
50 55 60	
cca atg tat ttc ttc ctc aat gtc ctc tcg ttt ctt gat att tgt tac	240
Pro Met Tyr Phe Phe Leu Asn Val Leu Ser Phe Leu Asp Ile Cys Tyr	
65 70 75 80	
tct tct gtg gtc aca cct aag ctc ttg gtc aac ttc ctg gtc tct gac	288
Ser Ser Val Val Thr Pro Lys Leu Leu Val Asn Phe Leu Val Ser Asp	
85 90 95	
aag tcc atc tct ttt gag ggc tgt gtg gtc cag ctc gcc ttc ttt gta	336
Lys Ser Ile Ser Phe Glu Gly Cys Val Val Gln Leu Ala Phe Phe Val	
100 105 110	
gtg cat gtg aca gct gag agc ttc ctg ctg gcc tcc atg gcc tat gac	384
Val His Val Thr Ala Glu Ser Phe Leu Leu Ala Ser Met Ala Tyr Asp	
115 120 125	
cgc ttc cta gcc atc tgt caa ccc ctc cat tat ggt tct atc atg acc	432
Arg Phe Leu Ala Ile Cys Gln Pro Leu His Tyr Gly Ser Ile Met Thr	
130 135 140	
agg ggg acc tgt ctc cag ctg gta gct gtg tcc tat gca ttt ggt gga	480
Arg Gly Thr Cys Leu Gln Leu Val Ala Val Ser Tyr Ala Phe Gly Gly	
145 150 155 160	
gcc aac tcc gct atc cag act gga aat gtc ttt gcc ctg cct ttc tgt	528
Ala Asn Ser Ala Ile Gln Thr Gly Asn Val Phe Ala Leu Pro Phe Cys	
165 170 175	
ggg ccc aac cag cta aca cac tac tac tgt gac ata cca ccc ctt ctc	576
Gly Pro Asn Gln Leu Thr His Tyr Tyr Cys Asp Ile Pro Pro Leu Leu	
180 185 190	
cac ctg gct tgt gcc aac aca gcc aca gca aga gtg gtc ctc tat gtc	624
His Leu Ala Cys Ala Asn Thr Ala Thr Ala Arg Val Val Leu Tyr Val	
195 200 205	
ttt tct gct ctg gtc acc ctt ctg cct gct gca gtc att ctc acc tcc	672
Phe Ser Ala Leu Val Thr Leu Leu Pro Ala Ala Val Ile Leu Thr Ser	
210 215 220	
tac tgc ttg gtc ttg gtg gcc att ggg agg atg cgc tca gta gca ggg	720
Tyr Cys Leu Val Leu Val Ala Ile Gly Arg Met Arg Ser Val Ala Gly	
225 230 235 240	
agg gag aag gac ctc tcc act tgt gcc tcc cac ttt ctg gcc att gcc	768
Arg Glu Lys Asp Leu Ser Thr Cys Ala Ser His Phe Leu Ala Ile Ala	
245 250 255	
att ttc tat ggc acc gtg gtt ttc acc tat gtt cag ccc cat gga tct	816
Ile Phe Tyr Gly Thr Val Val Phe Thr Tyr Val Gln Pro His Gly Ser	
260 265 270	

act aac aat acc aat ggc caa gta gtg tcc gtc ttc tac acc atc ata 864  
 Thr Asn Asn Thr Asn Gly Gln Val Val Ser Val Phe Tyr Thr Ile Ile  
                   275                                  280                                  285

att ccc atg ctc aat ccc ttc atc tat agc ctc cgc aac aag gag gtg 912  
 Ile Pro Met Leu Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Glu Val  
                   290                                  295                                  300

aag ggc gct ctg cag agg aag ctt cag gtc aac atc ttt ccc ggc tga 960  
 Lys Gly Ala Leu Gln Arg Lys Leu Gln Val Asn Ile Phe Pro Gly  
   310                                  315

<210> 68  
 <211> 319  
 <212> PRT  
 <213> Homo Sapiens

<400> 68

Met Thr Pro Gly Glu Leu Ala Leu Ala Ser Gly Asn His Thr Pro Val  
 1                                  5                                  10                                  15

Thr Lys Phe Ile Leu Gln Gly Phe Ser Asn Tyr Pro Asp Leu Gln Glu  
                                   20                                  25                                  30

Leu Leu Phe Gly Ala Ile Leu Leu Ile Tyr Ala Ile Thr Val Val Gly  
                   35                                  40                                  45

Asn Leu Gly Met Met Ala Leu Ile Phe Thr Asp Ser His Leu Gln Ser  
                   50                                  55                                  60

Pro Met Tyr Phe Phe Leu Asn Val Leu Ser Phe Leu Asp Ile Cys Tyr  
 65                                  70                                  75                                  80

Ser Ser Val Val Thr Pro Lys Leu Leu Val Asn Phe Leu Val Ser Asp  
                                   85                                  90                                  95

Lys Ser Ile Ser Phe Glu Gly Cys Val Val Gln Leu Ala Phe Phe Val  
                                   100                                  105                                  110

Val His Val Thr Ala Glu Ser Phe Leu Leu Ala Ser Met Ala Tyr Asp  
                   115                                  120                                  125

Arg Phe Leu Ala Ile Cys Gln Pro Leu His Tyr Gly Ser Ile Met Thr  
 130                                  135                                  140

Arg Gly Thr Cys Leu Gln Leu Val Ala Val Ser Tyr Ala Phe Gly Gly  
 145                                  150                                  155                                  160

Ala Asn Ser Ala Ile Gln Thr Gly Asn Val Phe Ala Leu Pro Phe Cys

				165					170					175		
Gly	Pro	Asn	Gln	Leu	Thr	His	Tyr	Tyr	Cys	Asp	Ile	Pro	Pro	Leu	Leu	
			180					185					190			
His	Leu	Ala	Cys	Ala	Asn	Thr	Ala	Thr	Ala	Arg	Val	Val	Leu	Tyr	Val	
		195					200					205				
Phe	Ser	Ala	Leu	Val	Thr	Leu	Leu	Pro	Ala	Ala	Val	Ile	Leu	Thr	Ser	
	210					215					220					
Tyr	Cys	Leu	Val	Leu	Val	Ala	Ile	Gly	Arg	Met	Arg	Ser	Val	Ala	Gly	
225					230					235					240	
Arg	Glu	Lys	Asp	Leu	Ser	Thr	Cys	Ala	Ser	His	Phe	Leu	Ala	Ile	Ala	
				245					250					255		
Ile	Phe	Tyr	Gly	Thr	Val	Val	Phe	Thr	Tyr	Val	Gln	Pro	His	Gly	Ser	
			260					265					270			
Thr	Asn	Asn	Thr	Asn	Gly	Gln	Val	Val	Ser	Val	Phe	Tyr	Thr	Ile	Ile	
		275					280					285				
Ile	Pro	Met	Leu	Asn	Pro	Phe	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	
	290					295					300					
Lys	Gly	Ala	Leu	Gln	Arg	Lys	Leu	Gln	Val	Asn	Ile	Phe	Pro	Gly		
305					310					315						

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<210> 69
<211> 939
<212> DNA
<213> Homo Sapiens
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<220>
<221> CDS
<222> (1) .. (936)
<223>
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<400> 69																
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Met	Arg	Asn	Gly	Thr	Val	Ile	Thr	Glu	Phe	Ile	Leu	Leu	Gly	Phe	Pro	
1				5					10					15		
gtt	atc	caa	ggc	cta	caa	aca	cct	ctc	ttt	att	gca	atc	ttt	ctc	acc	96
Val	Ile	Gln	Gly	Leu	Gln	Thr	Pro	Leu	Phe	Ile	Ala	Ile	Phe	Leu	Thr	
			20					25					30			
tac	ata	tta	acc	ctt	gca	ggc	aat	ggg	ctt	att	att	gcc	act	gtg	tgg	144
Tyr	Ile	Leu	Thr	Leu	Ala	Gly	Asn	Gly	Leu	Ile	Ile	Ala	Thr	Val	Trp	

35	40	45	
gct gag ccc agg cta caa att cca atg tac ttc ttc ctt tgt aac ttg Ala Glu Pro Arg Leu Gln Ile Pro Met Tyr Phe Phe Leu Cys Asn Leu 50 55 60			192
tct ttc tta gaa atc tgg tac acc acc aca gtc atc ccc aaa ctg cta Ser Phe Leu Glu Ile Trp Tyr Thr Thr Thr Val Ile Pro Lys Leu Leu 65 70 75 80			240
gga acc ttt gta gtg gca aga aca gta atc tgc atg tcc tgc tgc ctg Gly Thr Phe Val Val Ala Arg Thr Val Ile Cys Met Ser Cys Cys Leu 85 90 95			288
ctg cag gcc ttc ttc cac ttc ttc gtg ggc acc acc gag ttc ttg atc Leu Gln Ala Phe Phe His Phe Phe Val Gly Thr Thr Glu Phe Leu Ile 100 105 110			336
ctc act atc atg tct ttt gac cgc tac ctc acc atc tgc aat ccc ctt Leu Thr Ile Met Ser Phe Asp Arg Tyr Leu Thr Ile Cys Asn Pro Leu 115 120 125			384
cac cac ccc acc atc atg acc agc aaa ctc tgc ctg cag ctg gcc ctg His His Pro Thr Ile Met Thr Ser Lys Leu Cys Leu Gln Leu Ala Leu 130 135 140			432
agc tcc tgg gtg gtg ggc ttc acc att gtc ttt tgt cag acg atg ctg Ser Ser Trp Val Val Gly Phe Thr Ile Val Phe Cys Gln Thr Met Leu 145 150 155 160			480
ctc atc cag ttg cca ttc tgt ggc aat aat gtt atc agt cat ttc tac Leu Ile Gln Leu Pro Phe Cys Gly Asn Asn Val Ile Ser His Phe Tyr 165 170 175			528
tgt gat gtt ggg ccc agt ttg aaa gcc gcc tgc ata gac acc agc att Cys Asp Val Gly Pro Ser Leu Lys Ala Ala Cys Ile Asp Thr Ser Ile 180 185 190			576
ttg gaa ctc ctg ggc gtc ata gca acc atc ctt gtg atc cca ggg tca Leu Glu Leu Leu Gly Val Ile Ala Thr Ile Leu Val Ile Pro Gly Ser 195 200 205			624
ctt ctc ttt aat atg att tct tat atc tac att ctg tcc gca atc cta Leu Leu Phe Asn Met Ile Ser Tyr Ile Tyr Ile Leu Ser Ala Ile Leu 210 215 220			672
cga att cct tca gcc act ggc cac caa aag act ttc tct acc tgt gcc Arg Ile Pro Ser Ala Thr Gly His Gln Lys Thr Phe Ser Thr Cys Ala 225 230 235 240			720
tcg cac ctg aca gtt gtc tcc ctg ctc tac ggg gct gtt ctg ttc atg Ser His Leu Thr Val Val Ser Leu Leu Tyr Gly Ala Val Leu Phe Met 245 250 255			768
tac cta aga ccc aca gca cac tcc tcc ttt aag att aat aag gtg gtg Tyr Leu Arg Pro Thr Ala His Ser Ser Phe Lys Ile Asn Lys Val Val 260 265 270			816
tct gtg cta aat act atc ctc acc ccc ctt ctg aat ccc ttt att tat Ser Val Leu Asn Thr Ile Leu Thr Pro Leu Leu Asn Pro Phe Ile Tyr 275 280 285			864

act att aga aac aag gag gtg aag gga gcc tta aga aag gca atg act 912  
 Thr Ile Arg Asn Lys Glu Val Lys Gly Ala Leu Arg Lys Ala Met Thr  
 290 295 300

tgc cca aag act ggt cat gca aag taa 939  
 Cys Pro Lys Thr Gly His Ala Lys  
 305 310

<210> 70  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 70

Met Arg Asn Gly Thr Val Ile Thr Glu Phe Ile Leu Leu Gly Phe Pro  
 1 5 10 15

Val Ile Gln Gly Leu Gln Thr Pro Leu Phe Ile Ala Ile Phe Leu Thr  
 20 25 30

Tyr Ile Leu Thr Leu Ala Gly Asn Gly Leu Ile Ile Ala Thr Val Trp  
 35 40 45

Ala Glu Pro Arg Leu Gln Ile Pro Met Tyr Phe Phe Leu Cys Asn Leu  
 50 55 60

Ser Phe Leu Glu Ile Trp Tyr Thr Thr Thr Val Ile Pro Lys Leu Leu  
 65 70 75 80

Gly Thr Phe Val Val Ala Arg Thr Val Ile Cys Met Ser Cys Cys Leu  
 85 90 95

Leu Gln Ala Phe Phe His Phe Phe Val Gly Thr Thr Glu Phe Leu Ile  
 100 105 110

Leu Thr Ile Met Ser Phe Asp Arg Tyr Leu Thr Ile Cys Asn Pro Leu  
 115 120 125

His His Pro Thr Ile Met Thr Ser Lys Leu Cys Leu Gln Leu Ala Leu  
 130 135 140

Ser Ser Trp Val Val Gly Phe Thr Ile Val Phe Cys Gln Thr Met Leu  
 145 150 155 160

Leu Ile Gln Leu Pro Phe Cys Gly Asn Asn Val Ile Ser His Phe Tyr  
 165 170 175

Cys Asp Val Gly Pro Ser Leu Lys Ala Ala Cys Ile Asp Thr Ser Ile  
180 185 190

Leu Glu Leu Leu Gly Val Ile Ala Thr Ile Leu Val Ile Pro Gly Ser  
195 200 205

Leu Leu Phe Asn Met Ile Ser Tyr Ile Tyr Ile Leu Ser Ala Ile Leu  
210 215 220

Arg Ile Pro Ser Ala Thr Gly His Gln Lys Thr Phe Ser Thr Cys Ala  
225 230 235 240

Ser His Leu Thr Val Val Ser Leu Leu Tyr Gly Ala Val Leu Phe Met  
245 250 255

Tyr Leu Arg Pro Thr Ala His Ser Ser Phe Lys Ile Asn Lys Val Val  
260 265 270

Ser Val Leu Asn Thr Ile Leu Thr Pro Leu Leu Asn Pro Phe Ile Tyr  
275 280 285

Thr Ile Arg Asn Lys Glu Val Lys Gly Ala Leu Arg Lys Ala Met Thr  
290 295 300

Cys Pro Lys Thr Gly His Ala Lys  
305 310

<210> 71  
<211> 1038  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(1035)  
<223>

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Met Asn Ile Thr Leu Tyr Ser Phe Leu Tyr Val Leu Arg Leu Asn Glu	
1 5 10 15	
ggg aat agt act gga aga aat ata gat gaa aga aag aaa atg caa gga	96
Gly Asn Ser Thr Gly Arg Asn Ile Asp Glu Arg Lys Lys Met Gln Gly	
20 25 30	
gaa aac ttc acc att tgg agc att ttt ttc ttg gag gga ttt tcc cag	144
Glu Asn Phe Thr Ile Trp Ser Ile Phe Phe Leu Glu Gly Phe Ser Gln	
35 40 45	
tac cca ggg tta gaa gtg gtt ctc ttc gtc ttc agc ctt gta atg tat	192

Tyr	Pro	Gly	Leu	Glu	Val	Val	Leu	Phe	Val	Phe	Ser	Leu	Val	Met	Tyr	
50						55					60					
ctg	aca	acg	ctc	ttg	ggc	aac	agc	act	ctt	att	ttg	atc	act	atc	cta	240
Leu	Thr	Thr	Leu	Leu	Gly	Asn	Ser	Thr	Leu	Ile	Leu	Ile	Thr	Ile	Leu	
65					70					75					80	
gat	tca	cgc	ctt	aaa	acc	ccc	atg	tac	tta	ttc	ctt	gga	aat	ctc	tct	288
Asp	Ser	Arg	Leu	Lys	Thr	Pro	Met	Tyr	Leu	Phe	Leu	Gly	Asn	Leu	Ser	
				85					90					95		
ttc	atg	gat	att	tgt	tac	aca	tct	gcc	tct	ggt	cct	act	ttg	ctg	gtg	336
Phe	Met	Asp	Ile	Cys	Tyr	Thr	Ser	Ala	Ser	Val	Pro	Thr	Leu	Leu	Val	
			100					105					110			
aac	ttg	ctg	tca	tcc	cag	aaa	acc	att	atc	ttt	tct	ggg	tgt	gct	gta	384
Asn	Leu	Leu	Ser	Ser	Gln	Lys	Thr	Ile	Ile	Phe	Ser	Gly	Cys	Ala	Val	
		115					120					125				
cag	atg	tat	ctg	tcc	ctt	gcc	atg	ggc	tcc	aca	gag	tgt	gtg	ctc	ctg	432
Gln	Met	Tyr	Leu	Ser	Leu	Ala	Met	Gly	Ser	Thr	Glu	Cys	Val	Leu	Leu	
	130					135					140					
gcc	gtg	atg	gca	tat	gac	cgt	tat	gtg	gcc	att	tgt	aac	ccg	ctg	aga	480
Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	Pro	Leu	Arg	
145					150					155					160	
tac	tcc	atc	atc	atg	aac	agg	tgc	gtc	tgt	gca	cgg	atg	gcc	acg	gtc	528
Tyr	Ser	Ile	Ile	Met	Asn	Arg	Cys	Val	Cys	Ala	Arg	Met	Ala	Thr	Val	
				165					170					175		
tcc	tgg	gtg	acg	ggc	tgc	ctg	acc	gct	ctg	ctg	gaa	acc	agt	ttt	gcc	576
Ser	Trp	Val	Thr	Gly	Cys	Leu	Thr	Ala	Leu	Leu	Glu	Thr	Ser	Phe	Ala	
			180					185					190			
ctg	cag	ata	ccc	ctc	tgt	ggg	aac	ctc	atc	gat	cac	ttc	acg	tgt	gaa	624
Leu	Gln	Ile	Pro	Leu	Cys	Gly	Asn	Leu	Ile	Asp	His	Phe	Thr	Cys	Glu	
		195					200					205				
att	ctg	gcg	gtg	cta	aag	tta	gct	tgc	aca	agt	tca	ctg	ctc	atg	aac	672
Ile	Leu	Ala	Val	Leu	Lys	Leu	Ala	Cys	Thr	Ser	Ser	Leu	Leu	Met	Asn	
	210					215					220					
acc	atc	atg	ctg	gtg	gtc	agc	att	ctc	ctc	ttg	cca	att	cca	atg	ctc	720
Thr	Ile	Met	Leu	Val	Val	Ser	Ile	Leu	Leu	Leu	Pro	Ile	Pro	Met	Leu	
225					230					235					240	
tta	ggt	tgc	atc	tct	tac	atc	ttc	atc	ctt	tcc	act	att	ctg	aga	atc	768
Leu	Val	Cys	Ile	Ser	Tyr	Ile	Phe	Ile	Leu	Ser	Thr	Ile	Leu	Arg	Ile	
				245					250					255		
acc	tca	gca	gag	gga	aga	aac	aag	gct	ttt	tct	acc	tgt	ggc	gcc	cat	816
Thr	Ser	Ala	Glu	Gly	Arg	Asn	Lys	Ala	Phe	Ser	Thr	Cys	Gly	Ala	His	
			260					265					270			
ttg	act	gtg	gtg	att	ttg	tat	tat	ggg	gct	gcc	ctc	tct	atg	tac	cta	864
Leu	Thr	Val	Val	Ile	Leu	Tyr	Tyr	Gly	Ala	Ala	Leu	Ser	Met	Tyr	Leu	
		275					280					285				
aag	cct	tct	tca	tca	aat	gca	caa	aaa	ata	gac	aaa	atc	atc	tcg	ttg	912
Lys	Pro	Ser	Ser	Ser	Asn	Ala	Gln	Lys	Ile	Asp	Lys	Ile	Ile	Ser	Leu	

290                                      295                                      300  
 ctt tac gga gtg ctt acc cct atg ttg aac ccc ata att tac agt tta                      960  
 Leu Tyr Gly Val Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu  
 305                                      310                                      315                                      320  
 aga aac aag gaa gtc aaa gat gct atg aag aaa ttg ctg ggc aaa ata                      1008  
 Arg Asn Lys Glu Val Lys Asp Ala Met Lys Lys Leu Leu Gly Lys Ile  
 325                                      330                                      335  
 aca ttg cat caa aca cac gaa cat ctc tga    1038  
 Thr Leu His Gln Thr His Glu His Leu  
 340                                      345  
  
 <210> 72  
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 Gly Asn Ser Thr Gly Arg Asn Ile Asp Glu Arg Lys Lys Met Gln Gly  
 20                                      25                                      30  
 Glu Asn Phe Thr Ile Trp Ser Ile Phe Phe Leu Glu Gly Phe Ser Gln  
 35                                      40                                      45  
 Tyr Pro Gly Leu Glu Val Val Leu Phe Val Phe Ser Leu Val Met Tyr  
 50                                      55                                      60  
 Leu Thr Thr Leu Leu Gly Asn Ser Thr Leu Ile Leu Ile Thr Ile Leu  
 65                                      70                                      75                                      80  
 Asp Ser Arg Leu Lys Thr Pro Met Tyr Leu Phe Leu Gly Asn Leu Ser  
 85                                      90                                      95  
 Phe Met Asp Ile Cys Tyr Thr Ser Ala Ser Val Pro Thr Leu Leu Val  
 100                                      105                                      110  
 Asn Leu Leu Ser Ser Gln Lys Thr Ile Ile Phe Ser Gly Cys Ala Val  
 115                                      120                                      125  
 Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys Val Leu Leu  
 130                                      135                                      140  
 Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu Arg  
 145                                      150                                      155                                      160



Tyr Ser Ile Ile Met Asn Arg Cys Val Cys Ala Arg Met Ala Thr Val  
 165 170 175

Ser Trp Val Thr Gly Cys Leu Thr Ala Leu Leu Glu Thr Ser Phe Ala  
 180 185 190

Leu Gln Ile Pro Leu Cys Gly Asn Leu Ile Asp His Phe Thr Cys Glu  
 195 200 205

Ile Leu Ala Val Leu Lys Leu Ala Cys Thr Ser Ser Leu Leu Met Asn  
 210 215 220

Thr Ile Met Leu Val Val Ser Ile Leu Leu Leu Pro Ile Pro Met Leu  
 225 230 235 240

Leu Val Cys Ile Ser Tyr Ile Phe Ile Leu Ser Thr Ile Leu Arg Ile  
 245 250 255

Thr Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser Thr Cys Gly Ala His  
 260 265 270

Leu Thr Val Val Ile Leu Tyr Tyr Gly Ala Ala Leu Ser Met Tyr Leu  
 275 280 285

Lys Pro Ser Ser Ser Asn Ala Gln Lys Ile Asp Lys Ile Ile Ser Leu  
 290 295 300

Leu Tyr Gly Val Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu  
 305 310 315 320

Arg Asn Lys Glu Val Lys Asp Ala Met Lys Lys Leu Leu Gly Lys Ile  
 325 330 335

Thr Leu His Gln Thr His Glu His Leu  
 340 345

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<400> 73

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Met Lys Arg Lys Asn Phe Thr Glu Val Ser Glu Phe Ile Phe Leu Gly	
1 5 10 15	
ttt tct agc ttt gga aag cat cag ata acc ctc ttt gtg gtt ttc cta	96
Phe Ser Ser Phe Gly Lys His Gln Ile Thr Leu Phe Val Val Phe Leu	
20 25 30	
act gtc tac att tta act ctg gtt gct aac atc atc att gtg act atc	144
Thr Val Tyr Ile Leu Thr Leu Val Ala Asn Ile Ile Ile Val Thr Ile	
35 40 45	
atc tgc att gac cat cat ctc cac act ccc atg tat ttc ttc cta agc	192
Ile Cys Ile Asp His His Leu His Thr Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
atg ctg gct agt tca gag acg gtg tac aca ctg gtc att gtg cca cga	240
Met Leu Ala Ser Ser Glu Thr Val Tyr Thr Leu Val Ile Val Pro Arg	
65 70 75 80	
atg ctt ttg agc ctc att ttt cat aac caa cct atc tcc ttg gca ggc	288
Met Leu Leu Ser Leu Ile Phe His Asn Gln Pro Ile Ser Leu Ala Gly	
85 90 95	
tgt gct aca caa atg ttc ttt ttt gtt atc ttg gcc act aat aat tgc	336
Cys Ala Thr Gln Met Phe Phe Phe Val Ile Leu Ala Thr Asn Asn Cys	
100 105 110	
ttc ctg ctt act gca atg ggg tat gac cgc tat gtg gcc atc tgc aga	384
Phe Leu Leu Thr Ala Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys Arg	
115 120 125	
ccc ctg aga tac act gtc atc atg agc aag gga cta tgt gcc cag ctg	432
Pro Leu Arg Tyr Thr Val Ile Met Ser Lys Gly Leu Cys Ala Gln Leu	
130 135 140	
gtg tgt ggg tcc ttt ggc att ggt ctg act atg gca gtt ctc cat gtg	480
Val Cys Gly Ser Phe Gly Ile Gly Leu Thr Met Ala Val Leu His Val	
145 150 155 160	
aca gcc atg ttc aat ttg ccg ttc tgt ggc aca gtg gta gac cac ttc	528
Thr Ala Met Phe Asn Leu Pro Phe Cys Gly Thr Val Val Asp His Phe	
165 170 175	
ttt tgt gac att tac cca gtc atg aaa ctt tct tgc att gat acc act	576
Phe Cys Asp Ile Tyr Pro Val Met Lys Leu Ser Cys Ile Asp Thr Thr	
180 185 190	
atc aat gag ata ata aat tat ggt gta agt tca ttt gtg att ttt gtg	624
Ile Asn Glu Ile Ile Asn Tyr Gly Val Ser Ser Phe Val Ile Phe Val	
195 200 205	
ccc ata ggc ctg ata ttt atc tcc tat gtc ctt gtc atc tct tcc atc	672
Pro Ile Gly Leu Ile Phe Ile Ser Tyr Val Leu Val Ile Ser Ser Ile	
210 215 220	
ctt caa att gcc tca gct gag ggc cgg aag aag acc ttt gcc acc tgt	720
Leu Gln Ile Ala Ser Ala Glu Gly Arg Lys Lys Thr Phe Ala Thr Cys	
225 230 235 240	
gtc tcc cac ctc act gtg gtt att gtc cac tgt ggc tgt gcc tcc att	768

Val Ser His Leu Thr Val Val Ile Val His Cys Gly Cys Ala Ser Ile  
 245 250 255

gcc tac ctc aag ccg aag tca gaa agt tca ata gaa aaa gac ctt gtt 816  
 Ala Tyr Leu Lys Pro Lys Ser Glu Ser Ser Ile Glu Lys Asp Leu Val  
 260 265 270

ctc tca gtg acg tac acc atc atc act ccc ttg ctg aac cct gtt gtt 864  
 Leu Ser Val Thr Tyr Thr Ile Ile Thr Pro Leu Leu Asn Pro Val Val  
 275 280 285

tac agt ctg aga aac aag gag gta aag gat gcc cta tgc aga gtt gtg 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Leu Cys Arg Val Val  
 290 295 300

ggc aga aat att tct taa 930  
 Gly Arg Asn Ile Ser  
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<210> 74  
 <211> 309  
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<400> 74

Met Lys Arg Lys Asn Phe Thr Glu Val Ser Glu Phe Ile Phe Leu Gly  
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Phe Ser Ser Phe Gly Lys His Gln Ile Thr Leu Phe Val Val Phe Leu  
 20 25 30

Thr Val Tyr Ile Leu Thr Leu Val Ala Asn Ile Ile Ile Val Thr Ile  
 35 40 45

Ile Cys Ile Asp His His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Met Leu Ala Ser Ser Glu Thr Val Tyr Thr Leu Val Ile Val Pro Arg  
 65 70 75 80

Met Leu Leu Ser Leu Ile Phe His Asn Gln Pro Ile Ser Leu Ala Gly  
 85 90 95

Cys Ala Thr Gln Met Phe Phe Phe Val Ile Leu Ala Thr Asn Asn Cys  
 100 105 110

Phe Leu Leu Thr Ala Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys Arg  
 115 120 125

Pro Leu Arg Tyr Thr Val Ile Met Ser Lys Gly Leu Cys Ala Gln Leu  
 130 135 140

Val Cys Gly Ser Phe Gly Ile Gly Leu Thr Met Ala Val Leu His Val  
145 150 155 160

Thr Ala Met Phe Asn Leu Pro Phe Cys Gly Thr Val Val Asp His Phe  
165 170 175

Phe Cys Asp Ile Tyr Pro Val Met Lys Leu Ser Cys Ile Asp Thr Thr  
180 185 190

Ile Asn Glu Ile Ile Asn Tyr Gly Val Ser Ser Phe Val Ile Phe Val  
195 200 205

Pro Ile Gly Leu Ile Phe Ile Ser Tyr Val Leu Val Ile Ser Ser Ile  
210 215 220

Leu Gln Ile Ala Ser Ala Glu Gly Arg Lys Lys Thr Phe Ala Thr Cys  
225 230 235 240

Val Ser His Leu Thr Val Val Ile Val His Cys Gly Cys Ala Ser Ile  
245 250 255

Ala Tyr Leu Lys Pro Lys Ser Glu Ser Ser Ile Glu Lys Asp Leu Val  
260 265 270

Leu Ser Val Thr Tyr Thr Ile Ile Thr Pro Leu Leu Asn Pro Val Val  
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Leu Cys Arg Val Val  
290 295 300

Gly Arg Asn Ile Ser  
305

<210> 75  
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48

ctc ttc agt cac tca gga tca cgc cag ctc ctc ttc tcc ctg gtg gct	96
Leu Phe Ser His Ser Gly Ser Arg Gln Leu Leu Phe Ser Leu Val Ala	
20 25 30	
gtc atg ttt gtc ata ggc ctt ctg ggc aac acc gtt ctt ctc ttc ttg	144
Val Met Phe Val Ile Gly Leu Leu Gly Asn Thr Val Leu Leu Phe Leu	
35 40 45	
atc cgt gtg gac tcc cgg ctc cac aca ccc atg tac ttc ctg ctc agc	192
Ile Arg Val Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser	
50 55 60	
cag ctc tcc ctg ttt gac att ggc tgt ccc atg gtc acc atc ccc aag	240
Gln Leu Ser Leu Phe Asp Ile Gly Cys Pro Met Val Thr Ile Pro Lys	
65 70 75 80	
atg gca tca gac ttt ctg cgg gga gaa ggt gcc acc tcc tat gga ggt	288
Met Ala Ser Asp Phe Leu Arg Gly Glu Gly Ala Thr Ser Tyr Gly Gly	
85 90 95	
ggg gca gct caa ata ttc ttc ctc aca ctg atg ggt gtg gct gag ggc	336
Gly Ala Ala Gln Ile Phe Phe Leu Thr Leu Met Gly Val Ala Glu Gly	
100 105 110	
gtc ctg ttg gtc ctc atg tct tat gac cgt tat gtt gct gtg tgc cag	384
Val Leu Leu Val Leu Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Gln	
115 120 125	
ccc ctg cag tat cct gta ctt atg aga cgc cag gta tgt ctg ctg atg	432
Pro Leu Gln Tyr Pro Val Leu Met Arg Arg Gln Val Cys Leu Leu Met	
130 135 140	
atg ggc tcc tcc tgg gtg gta ggt gtg ctc aac gcc tcc atc cag acc	480
Met Gly Ser Ser Trp Val Val Gly Val Leu Asn Ala Ser Ile Gln Thr	
145 150 155 160	
tcc atc acc ctg cat ttt ccc tac tgt gcc tcc cgt att gtg gat cac	528
Ser Ile Thr Leu His Phe Pro Tyr Cys Ala Ser Arg Ile Val Asp His	
165 170 175	
ttc ttc tgt gag gtg cca gcc cta ctg aag ctc tcc tgt gca gat acc	576
Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Ala Asp Thr	
180 185 190	
tgt gcc tac gag atg gcg ctg tcc acc tca ggg gtg ctg atc cta atg	624
Cys Ala Tyr Glu Met Ala Leu Ser Thr Ser Gly Val Leu Ile Leu Met	
195 200 205	
ctc cct ctt tcc ctc atc gcc acc tcc tac ggc cac gtg ttg cag gct	672
Leu Pro Leu Ser Leu Ile Ala Thr Ser Tyr Gly His Val Leu Gln Ala	
210 215 220	
gtt cta agc atg cgc tca gag gag gcc aga cac aag gct gtc acc acc	720
Val Leu Ser Met Arg Ser Glu Glu Ala Arg His Lys Ala Val Thr Thr	
225 230 235 240	
tgc tcc tcg cac atc acg gta gtg ggg ctc ttt tat ggt gcc gcc gtg	768
Cys Ser Ser His Ile Thr Val Val Gly Leu Phe Tyr Gly Ala Ala Val	
245 250 255	

ttc atg tac atg gtg cct tgc gcc tac cac agt cca cag cag gat aac 816  
 Phe Met Tyr Met Val Pro Cys Ala Tyr His Ser Pro Gln Gln Asp Asn  
                   260                                  265                                  270

gtg gtt tcc ctc ttc tat agc ctt gtc acc cct aca ctc aac ccc ctt 864  
 Val Val Ser Leu Phe Tyr Ser Leu Val Thr Pro Thr Leu Asn Pro Leu  
                   275                                  280                                  285

atc tac agt ctg agg aat ccg gag gtg tgg atg gct ttg gtc aaa gtg 912  
 Ile Tyr Ser Leu Arg Asn Pro Glu Val Trp Met Ala Leu Val Lys Val  
                   290                                  295                                  300

ctt agc aga gct gga ctc agg caa atg tgc tga 945  
 Leu Ser Arg Ala Gly Leu Arg Gln Met Cys  
                   305                                  310

<210> 76

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 76

Met Gly Asp Val Asn Gln Ser Val Ala Ser Asp Phe Ile Leu Val Gly  
 1                                  5                                  10                                  15

Leu Phe Ser His Ser Gly Ser Arg Gln Leu Leu Phe Ser Leu Val Ala  
                   20                                  25                                  30

Val Met Phe Val Ile Gly Leu Leu Gly Asn Thr Val Leu Leu Phe Leu  
                   35                                  40                                  45

Ile Arg Val Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
                   50                                  55                                  60

Gln Leu Ser Leu Phe Asp Ile Gly Cys Pro Met Val Thr Ile Pro Lys  
 65                                  70                                  75                                  80

Met Ala Ser Asp Phe Leu Arg Gly Glu Gly Ala Thr Ser Tyr Gly Gly  
                   85                                  90                                  95

Gly Ala Ala Gln Ile Phe Phe Leu Thr Leu Met Gly Val Ala Glu Gly  
                   100                                  105                                  110

Val Leu Leu Val Leu Met Ser Tyr Asp Arg Tyr Val Ala Val Cys Gln  
                   115                                  120                                  125

Pro Leu Gln Tyr Pro Val Leu Met Arg Arg Gln Val Cys Leu Leu Met  
                   130                                  135                                  140

Met Gly Ser Ser Trp Val Val Gly Val Leu Asn Ala Ser Ile Gln Thr

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<210> 77
<211> 954
<212> DNA
<213> Homo Sapiens

<220>
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<222> (1)..(951)
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atg cta agg aat ggc agc ata gtg acg gaa ttt atc ctc gtg ggc ttt      48
Met Leu Arg Asn Gly Ser Ile Val Thr Glu Phe Ile Leu Val Gly Phe
1                               10                               15

cag cag agc tcc act tcc aca cga gca ttg ctc ttt gcc ctc ttc ttg      96
Gln Gln Ser Ser Thr Ser Thr Arg Ala Leu Leu Phe Ala Leu Phe Leu

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20						25					30					
gcc	ctc	tac	agc	ctc	acc	atg	gcc	atg	aat	ggc	ctc	atc	atc	ttt	atc	144
Ala	Leu	Tyr	Ser	Leu	Thr	Met	Ala	Met	Asn	Gly	Leu	Ile	Ile	Phe	Ile	
		35						40					45			
acc	tcc	tgg	aca	gac	ccc	aag	ctc	aac	agc	ccc	atg	tac	ttc	ttc	ctc	192
Thr	Ser	Trp	Thr	Asp	Pro	Lys	Leu	Asn	Ser	Pro	Met	Tyr	Phe	Phe	Leu	
		50				55					60					
ggc	cat	ctg	tct	ctc	ctg	gat	gtc	tgc	ttc	atc	acc	act	acc	atc	cca	240
Gly	His	Leu	Ser	Leu	Leu	Asp	Val	Cys	Phe	Ile	Thr	Thr	Thr	Ile	Pro	
65					70					75					80	
cag	atg	ttg	atc	cac	ctc	gtg	gtc	agg	gac	cac	att	gtc	tcc	ttt	gta	288
Gln	Met	Leu	Ile	His	Leu	Val	Val	Arg	Asp	His	Ile	Val	Ser	Phe	Val	
				85					90					95		
tgt	tgc	atg	acc	cag	atg	tac	ttt	gtc	ttc	tgt	gtt	ggc	gtg	gcc	gag	336
Cys	Cys	Met	Thr	Gln	Met	Tyr	Phe	Val	Phe	Cys	Val	Gly	Val	Ala	Glu	
			100					105					110			
tgc	atc	ctc	ttg	gct	ttc	atg	gcc	tat	gac	cgt	tat	gtt	gct	atc	tgc	384
Cys	Ile	Leu	Leu	Ala	Phe	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	
		115					120					125				
tac	cca	ctt	aac	tat	gtc	ccg	atc	ata	agc	cag	aag	gtc	tgt	gtc	agg	432
Tyr	Pro	Leu	Asn	Tyr	Val	Pro	Ile	Ile	Ser	Gln	Lys	Val	Cys	Val	Arg	
		130					135				140					
ctt	gtg	gga	act	gcc	tgg	ttc	ttt	ggg	ctg	atc	aat	ggc	atc	ttt	ctc	480
Leu	Val	Gly	Thr	Ala	Trp	Phe	Phe	Gly	Leu	Ile	Asn	Gly	Ile	Phe	Leu	
145					150					155					160	
gag	tat	att	tca	ttc	cga	gag	ccc	ttc	cgc	aga	gac	aac	cac	ata	gaa	528
Glu	Tyr	Ile	Ser	Phe	Arg	Glu	Pro	Phe	Arg	Arg	Asp	Asn	His	Ile	Glu	
				165					170					175		
agc	ttc	ttc	tgt	gag	gcc	ccc	ata	gtg	att	ggc	ctc	tct	tgt	ggg	gac	576
Ser	Phe	Phe	Cys	Glu	Ala	Pro	Ile	Val	Ile	Gly	Leu	Ser	Cys	Gly	Asp	
			180					185					190			
cct	cag	ttt	agt	ctg	tgg	gca	atc	ttt	gcc	gat	gcc	atc	gtg	gta	att	624
Pro	Gln	Phe	Ser	Leu	Trp	Ala	Ile	Phe	Ala	Asp	Ala	Ile	Val	Val	Ile	
		195					200					205				
ctc	agc	ccc	atg	gtg	ctc	act	gtc	act	tcc	tat	gtg	cac	atc	ctg	gcc	672
Leu	Ser	Pro	Met	Val	Leu	Thr	Val	Thr	Ser	Tyr	Val	His	Ile	Leu	Ala	
		210				215					220					
acc	atc	ctc	agc	aaa	gcc	tcc	tcc	tca	ggc	cgg	ggg	aag	act	ttc	tct	720
Thr	Ile	Leu	Ser	Lys	Ala	Ser	Ser	Ser	Gly	Arg	Gly	Lys	Thr	Phe	Ser	
225					230					235				240		
act	tgt	gcc	tct	cac	ctg	act	gtg	gtc	atc	ttt	ctc	tac	act	tca	gct	768
Thr	Cys	Ala	Ser	His	Leu	Thr	Val	Val	Ile	Phe	Leu	Tyr	Thr	Ser	Ala	
				245				250					255			
atg	ttc	tct	tac	atg	aac	ccc	cac	agc	aca	cat	ggg	cct	gac	aaa	gac	816
Met	Phe	Ser	Tyr	Met	Asn	Pro	His	Ser	Thr	His	Gly	Pro	Asp	Lys	Asp	
			260				265					270				



aaa cct ttc tcc ctc ctg tac acc atc att acc ccc atg tgc aac ccc 864  
 Lys Pro Phe Ser Leu Leu Tyr Thr Ile Ile Thr Pro Met Cys Asn Pro  
           275                          280                          285

atc att tat agt ttc cgc aac aag gaa att aag gag gcc atg gtg agg 912  
 Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Glu Ala Met Val Arg  
           290                          295                          300

gca ctt gga aga acc agg ctg gcc cag cca cag tct gtc tag 954  
 Ala Leu Gly Arg Thr Arg Leu Ala Gln Pro Gln Ser Val  
           305                          310                          315

<210> 78  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 78

Met Leu Arg Asn Gly Ser Ile Val Thr Glu Phe Ile Leu Val Gly Phe  
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Gln Gln Ser Ser Thr Ser Thr Arg Ala Leu Leu Phe Ala Leu Phe Leu  
           20                          25                          30

Ala Leu Tyr Ser Leu Thr Met Ala Met Asn Gly Leu Ile Ile Phe Ile  
           35                          40                          45

Thr Ser Trp Thr Asp Pro Lys Leu Asn Ser Pro Met Tyr Phe Phe Leu  
           50                          55                          60

Gly His Leu Ser Leu Leu Asp Val Cys Phe Ile Thr Thr Thr Ile Pro  
 65                          70                          75                          80

Gln Met Leu Ile His Leu Val Val Arg Asp His Ile Val Ser Phe Val  
           85                          90                          95

Cys Cys Met Thr Gln Met Tyr Phe Val Phe Cys Val Gly Val Ala Glu  
           100                          105                          110

Cys Ile Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys  
           115                          120                          125

Tyr Pro Leu Asn Tyr Val Pro Ile Ile Ser Gln Lys Val Cys Val Arg  
           130                          135                          140

Leu Val Gly Thr Ala Trp Phe Phe Gly Leu Ile Asn Gly Ile Phe Leu  
 145                          150                          155                          160

Glu Tyr Ile Ser Phe Arg Glu Pro Phe Arg Arg Asp Asn His Ile Glu  
 165 170 175

Ser Phe Phe Cys Glu Ala Pro Ile Val Ile Gly Leu Ser Cys Gly Asp  
 180 185 190

Pro Gln Phe Ser Leu Trp Ala Ile Phe Ala Asp Ala Ile Val Val Ile  
 195 200 205

Leu Ser Pro Met Val Leu Thr Val Thr Ser Tyr Val His Ile Leu Ala  
 210 215 220

Thr Ile Leu Ser Lys Ala Ser Ser Ser Gly Arg Gly Lys Thr Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Val Val Ile Phe Leu Tyr Thr Ser Ala  
 245 250 255

Met Phe Ser Tyr Met Asn Pro His Ser Thr His Gly Pro Asp Lys Asp  
 260 265 270

Lys Pro Phe Ser Leu Leu Tyr Thr Ile Ile Thr Pro Met Cys Asn Pro  
 275 280 285

Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Glu Ala Met Val Arg  
 290 295 300

Ala Leu Gly Arg Thr Arg Leu Ala Gln Pro Gln Ser Val  
 305 310 315

<210> 79  
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 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(930)  
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 1 5 10 15  
 cag gat cct ttt tgg aag aaa ata gtg ttt gtt att ttt ttg cgt ctc 96  
 Gln Asp Pro Phe Trp Lys Lys Ile Val Phe Val Ile Phe Leu Arg Leu  
 20 25 30  
 tac ttg gga aca ctg ttg ggt aat ttg cta atc att att agt gtc aag 144

Tyr	Leu	Gly	Thr	Leu	Leu	Gly	Asn	Leu	Leu	Ile	Ile	Ile	Ser	Val	Lys	
	35						40					45				
gcc	agc	cag	gca	ctt	aag	aac	cca	atg	ttc	ttc	ttc	ctt	ttc	tac	tta	192
Ala	Ser	Gln	Ala	Leu	Lys	Asn	Pro	Met	Phe	Phe	Phe	Leu	Phe	Tyr	Leu	
	50					55					60					
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Ser	Leu	Ser	Asp	Thr	Cys	Leu	Ser	Thr	Ser	Ile	Ala	Pro	Arg	Met	Ile	
65					70					75					80	
gtg	gat	gcc	ctt	ttg	aag	aag	aca	act	atc	tcc	ttc	agc	gag	tgc	atg	288
Val	Asp	Ala	Leu	Leu	Lys	Lys	Thr	Thr	Ile	Ser	Phe	Ser	Glu	Cys	Met	
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atc	caa	gtc	ttt	tca	tcc	cat	gtc	ttt	ggc	tgc	ctg	gag	atc	ttc	atc	336
Ile	Gln	Val	Phe	Ser	Ser	His	Val	Phe	Gly	Cys	Leu	Glu	Ile	Phe	Ile	
			100					105					110			
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Leu	Ile	Leu	Thr	Ala	Val	Asp	Arg	Tyr	Val	Asp	Ile	Cys	Lys	Pro	Leu	
		115					120					125				
cac	tac	atg	acc	atc	ata	agc	cag	tgg	gtc	tgt	ggc	gtt	ttg	atg	gct	432
His	Tyr	Met	Thr	Ile	Ile	Ser	Gln	Trp	Val	Cys	Gly	Val	Leu	Met	Ala	
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Val	Ala	Trp	Val	Gly	Ser	Cys	Val	His	Ser	Leu	Val	Gln	Ile	Phe	Leu	
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gcc	ctg	agt	ttg	cca	ttc	tgt	ggc	ccc	aat	gtg	atc	aat	cac	tgt	ttc	528
Ala	Leu	Ser	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Val	Ile	Asn	His	Cys	Phe	
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Cys	Asp	Leu	Gln	Pro	Leu	Leu	Lys	Gln	Ala	Cys	Ser	Glu	Thr	Tyr	Val	
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gtt	aac	cta	ctc	ctg	gtt	tcc	aat	agt	ggg	gcc	att	tgt	gca	gtg	agt	624
Val	Asn	Leu	Leu	Leu	Val	Ser	Asn	Ser	Gly	Ala	Ile	Cys	Ala	Val	Ser	
		195					200					205				
tat	gtc	atg	cta	ata	ttc	tcc	tat	gtc	atc	ttc	ttg	cat	tct	ctg	aga	672
Tyr	Val	Met	Leu	Ile	Phe	Ser	Tyr	Val	Ile	Phe	Leu	His	Ser	Leu	Arg	
	210					215					220					
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Asn	His	Ser	Ala	Glu	Val	Ile	Lys	Lys	Ala	Leu	Ser	Thr	Cys	Val	Ser	
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cac	atc	att	gtg	gtc	atc	ttg	ttc	ttt	gga	cct	tgc	ata	ttt	atg	tac	768
His	Ile	Ile	Val	Val	Ile	Leu	Phe	Phe	Gly	Pro	Cys	Ile	Phe	Met	Tyr	
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Thr	Cys	Pro	Ala	Thr	Val	Phe	Pro	Met	Asp	Lys	Met	Ile	Ala	Val	Phe	
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tat	aca	gtt	gga	aca	tct	ttt	ctc	aac	cct	gtg	att	tac	acg	ctg	aag	864
Tyr	Thr	Val	Gly	Thr	Ser	Phe	Leu	Asn	Pro	Val	Ile	Tyr	Thr	Leu	Lys	

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                275                280                285
aat aca gaa gtg aaa agt gcc atg agg aag ctt tgg agc aag aaa ttg      912
Asn Thr Glu Val Lys Ser Ala Met Arg Lys Leu Trp Ser Lys Lys Leu
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Ile Thr Asp Asp Lys Arg
    305                310

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<212> PRT
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Tyr Leu Gly Thr Leu Leu Gly Asn Leu Leu Ile Ile Ile Ser Val Lys
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Ala Ser Gln Ala Leu Lys Asn Pro Met Phe Phe Phe Leu Phe Tyr Leu
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Ser Leu Ser Asp Thr Cys Leu Ser Thr Ser Ile Ala Pro Arg Met Ile
    65                70                75                80

Val Asp Ala Leu Leu Lys Lys Thr Thr Ile Ser Phe Ser Glu Cys Met
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Ile Gln Val Phe Ser Ser His Val Phe Gly Cys Leu Glu Ile Phe Ile
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Leu Ile Leu Thr Ala Val Asp Arg Tyr Val Asp Ile Cys Lys Pro Leu
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His Tyr Met Thr Ile Ile Ser Gln Trp Val Cys Gly Val Leu Met Ala
    130                135                140

Val Ala Trp Val Gly Ser Cys Val His Ser Leu Val Gln Ile Phe Leu
    145                150                155                160

Ala Leu Ser Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Cys Phe
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Cys Asp Leu Gln Pro Leu Leu Lys Gln Ala Cys Ser Glu Thr Tyr Val  
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Val Asn Leu Leu Leu Val Ser Asn Ser Gly Ala Ile Cys Ala Val Ser  
195 200 205

Tyr Val Met Leu Ile Phe Ser Tyr Val Ile Phe Leu His Ser Leu Arg  
210 215 220

Asn His Ser Ala Glu Val Ile Lys Lys Ala Leu Ser Thr Cys Val Ser  
225 230 235 240

His Ile Ile Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Met Tyr  
245 250 255

Thr Cys Pro Ala Thr Val Phe Pro Met Asp Lys Met Ile Ala Val Phe  
260 265 270

Tyr Thr Val Gly Thr Ser Phe Leu Asn Pro Val Ile Tyr Thr Leu Lys  
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Ile Thr Asp Asp Lys Arg  
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ttt att ctc ttg ggg ttt tcc caa aat aag aac att gaa gtc ctc tgc 96  
Phe Ile Leu Leu Gly Phe Ser Gln Asn Lys Asn Ile Glu Val Leu Cys  
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ttt gta tta ttt ttg ttt tgc tac att gct att tgg atg gga aac tta 144  
Phe Val Leu Phe Leu Phe Cys Tyr Ile Ala Ile Trp Met Gly Asn Leu  
35 40 45

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Leu	Ile	Met	Ile	Ser	Ile	Thr	Cys	Thr	Gln	Leu	Ile	His	Gln	Pro	Met	
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Tyr	Phe	Phe	Leu	Asn	Tyr	Leu	Ser	Leu	Ser	Asp	Leu	Cys	Tyr	Thr	Ser	
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aca	gtg	acc	ccc	aaa	tta	atg	gtt	gac	tta	ctg	gca	gaa	aga	aag	acc	288
Thr	Val	Thr	Pro	Lys	Leu	Met	Val	Asp	Leu	Leu	Ala	Glu	Arg	Lys	Thr	
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att	tcc	tat	aat	aac	tgt	atg	ata	caa	ctc	ttt	acc	acc	cat	ttt	ttt	336
Ile	Ser	Tyr	Asn	Asn	Cys	Met	Ile	Gln	Leu	Phe	Thr	Thr	His	Phe	Phe	
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gga	ggc	ata	gag	atc	ttc	att	ctc	aca	ggg	atg	gcc	tat	gac	cgc	tat	384
Gly	Gly	Ile	Glu	Ile	Phe	Ile	Leu	Thr	Gly	Met	Ala	Tyr	Asp	Arg	Tyr	
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Val	Ala	Ile	Cys	Lys	Pro	Leu	His	Tyr	Thr	Ile	Ile	Met	Ser	Arg	Gln	
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Lys	Cys	Asn	Thr	Ile	Ile	Ile	Val	Cys	Cys	Thr	Gly	Gly	Phe	Ile	His	
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Ser	Ala	Ser	Gln	Phe	Leu	Leu	Thr	Ile	Phe	Val	Pro	Phe	Cys	Gly	Pro	
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Asn	Glu	Ile	Asp	His	Tyr	Phe	Cys	Asp	Val	Tyr	Pro	Leu	Leu	Lys	Leu	
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Ala	Cys	Ser	Asn	Ile	His	Met	Ile	Gly	Leu	Leu	Val	Ile	Ala	Asn	Ser	
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ggc	tta	att	gct	ttg	gtg	aca	ttt	gtt	gtc	ttg	ttg	ttg	tct	tat	gtt	672
Gly	Leu	Ile	Ala	Leu	Val	Thr	Phe	Val	Val	Leu	Leu	Leu	Ser	Tyr	Val	
	210					215						220				
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Phe	Ile	Leu	Tyr	Thr	Ile	Arg	Ala	Tyr	Ser	Ala	Glu	Arg	Arg	Ser	Lys	
225					230					235					240	
gct	ctt	gcc	act	tgt	agt	tct	cat	gta	att	gtt	gtg	gtc	ctg	ttt	ttt	768
Ala	Leu	Ala	Thr	Cys	Ser	Ser	His	Val	Ile	Val	Val	Val	Leu	Phe	Phe	
				245					250					255		
gct	cct	gca	ttg	ttc	att	tac	att	aga	ccg	gtc	aca	aca	ttc	tca	gaa	816
Ala	Pro	Ala	Leu	Phe	Ile	Tyr	Ile	Arg	Pro	Val	Thr	Thr	Phe	Ser	Glu	
			260					265					270			
gat	aaa	gtg	ttt	gcc	ctt	ttt	tat	acc	atc	att	gct	ccc	atg	ttc	aac	864
Asp	Lys	Val	Phe	Ala	Leu	Phe	Tyr	Thr	Ile	Ile	Ala	Pro	Met	Phe	Asn	
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Pro Leu Ile Tyr Thr Leu Arg Asn Thr Glu Met Lys Asn Ala Met Arg  
 290 295 300

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<212> PRT

<213> Homo Sapiens

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Phe Val Leu Phe Leu Phe Cys Tyr Ile Ala Ile Trp Met Gly Asn Leu  
 35 40 45

Leu Ile Met Ile Ser Ile Thr Cys Thr Gln Leu Ile His Gln Pro Met  
 50 55 60

Tyr Phe Phe Leu Asn Tyr Leu Ser Leu Ser Asp Leu Cys Tyr Thr Ser  
 65 70 75 80

Thr Val Thr Pro Lys Leu Met Val Asp Leu Leu Ala Glu Arg Lys Thr  
 85 90 95

Ile Ser Tyr Asn Asn Cys Met Ile Gln Leu Phe Thr Thr His Phe Phe  
 100 105 110

Gly Gly Ile Glu Ile Phe Ile Leu Thr Gly Met Ala Tyr Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Lys Pro Leu His Tyr Thr Ile Ile Met Ser Arg Gln  
 130 135 140

Lys Cys Asn Thr Ile Ile Ile Val Cys Cys Thr Gly Gly Phe Ile His  
 145 150 155 160

Ser Ala Ser Gln Phe Leu Leu Thr Ile Phe Val Pro Phe Cys Gly Pro  
 165 170 175

Asn Glu Ile Asp His Tyr Phe Cys Asp Val Tyr Pro Leu Leu Lys Leu  
 180 185 190

Ala Cys Ser Asn Ile His Met Ile Gly Leu Leu Val Ile Ala Asn Ser  
 195 200 205

Gly Leu Ile Ala Leu Val Thr Phe Val Val Leu Leu Leu Ser Tyr Val  
 210 215 220

Phe Ile Leu Tyr Thr Ile Arg Ala Tyr Ser Ala Glu Arg Arg Ser Lys  
 225 230 235 240

Ala Leu Ala Thr Cys Ser Ser His Val Ile Val Val Val Leu Phe Phe  
 245 250 255

Ala Pro Ala Leu Phe Ile Tyr Ile Arg Pro Val Thr Thr Phe Ser Glu  
 260 265 270

Asp Lys Val Phe Ala Leu Phe Tyr Thr Ile Ile Ala Pro Met Phe Asn  
 275 280 285

Pro Leu Ile Tyr Thr Leu Arg Asn Thr Glu Met Lys Asn Ala Met Arg  
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 Gln Ser Phe Val Thr Glu Phe Val Leu Leu Gly Leu Ser Gln Asn Pro  
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 Asn Val Gln Glu Ile Val Phe Val Val Phe Leu Phe Val Tyr Ile Ala  
 35 40 45  
 act gtt ggg ggc aac atg cta att gta gta acc att ctc agc agc cct 192  
 Thr Val Gly Gly Asn Met Leu Ile Val Val Thr Ile Leu Ser Ser Pro  
 50 55 60



gct ctt ctg gtg tct cct atg tac ttc ttc ttg ggc ttc ctg tcc ttc	240
Ala Leu Leu Val Ser Pro Met Tyr Phe Phe Leu Gly Phe Leu Ser Phe	
65 70 75 80	
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Leu Asp Ala Cys Phe Ser Ser Val Ile Thr Pro Lys Met Ile Val Asp	
85 90 95	
tcc ctc tat gtg aca aaa acc atc tct ttt gaa ggc tgc atg atg cag	336
Ser Leu Tyr Val Thr Lys Thr Ile Ser Phe Glu Gly Cys Met Met Gln	
100 105 110	
ctc ttt gct gaa cac ttc ttt gct ggg gtg gag gtg att gtc ctc aca	384
Leu Phe Ala Glu His Phe Phe Ala Gly Val Glu Val Ile Val Leu Thr	
115 120 125	
gcc atg gcc tat gat cgt tat gtg gcc att tgc aag ccc ttg cat tac	432
Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr	
130 135 140	
tct tct atc atg aac agg agg ctc tgt ggc att ctg atg ggg gta gcc	480
Ser Ser Ile Met Asn Arg Arg Leu Cys Gly Ile Leu Met Gly Val Ala	
145 150 155 160	
tgg aca ggg ggc ctc ttg cat tcc atg ata caa att ctt ttt act ttc	528
Trp Thr Gly Gly Leu Leu His Ser Met Ile Gln Ile Leu Phe Thr Phe	
165 170 175	
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Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Phe Met Cys Asp	
180 185 190	
ttg tac ccg tta ctg gag ctt gcc tgc act gat act cac atc ttt ggc	624
Leu Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr His Ile Phe Gly	
195 200 205	
ctc atg gtg gtc atc aac agt ggg ttt atc tgc atc ata aac ttc tcc	672
Leu Met Val Val Ile Asn Ser Gly Phe Ile Cys Ile Ile Asn Phe Ser	
210 215 220	
ttg ttg ctt gtc tcc tat gct gtc atc ttg ctc tct ctg aga aca cac	720
Leu Leu Leu Val Ser Tyr Ala Val Ile Leu Leu Ser Leu Arg Thr His	
225 230 235 240	
agt tct gaa ggg cgc tgg aaa gct ctc tcc acc tgt gga tct cac att	768
Ser Ser Glu Gly Arg Trp Lys Ala Leu Ser Thr Cys Gly Ser His Ile	
245 250 255	
gct gtt gtg att ttg ttc ttt gtc cca tgc ata ttt gta tat aca cga	816
Ala Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Val Tyr Thr Arg	
260 265 270	
cct cca tct gct ttt tcc ctt gac aaa atg gcg gca ata ttt tat atc	864
Pro Pro Ser Ala Phe Ser Leu Asp Lys Met Ala Ala Ile Phe Tyr Ile	
275 280 285	
atc tta aat ccc ttg ctc aat cct ttg att tac act ttc agg aat aag	912
Ile Leu Asn Pro Leu Leu Asn Pro Leu Ile Tyr Thr Phe Arg Asn Lys	
290 295 300	

gaa gta aaa cag gcc atg agg aga ata tgg aac aga ctg atg gtg gtt 960  
 Glu Val Lys Gln Ala Met Arg Arg Ile Trp Asn Arg Leu Met Val Val  
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 Ser Asp Glu Lys Glu Asn Ile Lys Leu  
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<400> 84

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Asn Val Gln Glu Ile Val Phe Val Val Phe Leu Phe Val Tyr Ile Ala  
 35 40 45

Thr Val Gly Gly Asn Met Leu Ile Val Val Thr Ile Leu Ser Ser Pro  
 50 55 60

Ala Leu Leu Val Ser Pro Met Tyr Phe Phe Leu Gly Phe Leu Ser Phe  
 65 70 75 80

Leu Asp Ala Cys Phe Ser Ser Val Ile Thr Pro Lys Met Ile Val Asp  
 85 90 95

Ser Leu Tyr Val Thr Lys Thr Ile Ser Phe Glu Gly Cys Met Met Gln  
 100 105 110

Leu Phe Ala Glu His Phe Phe Ala Gly Val Glu Val Ile Val Leu Thr  
 115 120 125

Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr  
 130 135 140

Ser Ser Ile Met Asn Arg Arg Leu Cys Gly Ile Leu Met Gly Val Ala  
 145 150 155 160

Trp Thr Gly Gly Leu Leu His Ser Met Ile Gln Ile Leu Phe Thr Phe  
 165 170 175

Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asn His Phe Met Cys Asp

180 185 190  
 Leu Tyr Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr His Ile Phe Gly  
 195 200 205  
 Leu Met Val Val Ile Asn Ser Gly Phe Ile Cys Ile Ile Asn Phe Ser  
 210 215 220  
 Leu Leu Leu Val Ser Tyr Ala Val Ile Leu Leu Ser Leu Arg Thr His  
 225 230 235 240  
 Ser Ser Glu Gly Arg Trp Lys Ala Leu Ser Thr Cys Gly Ser His Ile  
 245 250 255  
 Ala Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Val Tyr Thr Arg  
 260 265 270  
 Pro Pro Ser Ala Phe Ser Leu Asp Lys Met Ala Ala Ile Phe Tyr Ile  
 275 280 285  
 Ile Leu Asn Pro Leu Leu Asn Pro Leu Ile Tyr Thr Phe Arg Asn Lys  
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 Thr Ser Arg Arg Glu Leu Gln Ile Leu Leu Phe Thr Leu Phe Leu Ala  
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atc ctg gct gtg atg gcc ttt gac cgg tac atg gcc atc tgc aac cct Ile Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Asn Pro 115 120 125			384
ctg ctt tat ggc agc aga atg tcc aag agt gtg tgc tcc ttc ctc atc Leu Leu Tyr Gly Ser Arg Met Ser Lys Ser Val Cys Ser Phe Leu Ile 130 135 140			432
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tgg acc tac aac cta gcc ttc tgt ggc ccc aat gaa att aat cac ttc Trp Thr Tyr Asn Leu Ala Phe Cys Gly Pro Asn Glu Ile Asn His Phe 165 170 175			528
tac tgt gcg gac cca cca ctg att aag ctg gct tgt tct gac acc tac Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ala Cys Ser Asp Thr Tyr 180 185 190			576
aac aag gag ttg tca atg ttt att gtg gct ggc tgg aac ctt tct ttt Asn Lys Glu Leu Ser Met Phe Ile Val Ala Gly Trp Asn Leu Ser Phe 195 200 205			624
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ggc tcc cat ctg aca gct gtc act ata ttc tat gca acc ctt ttc ttc Gly Ser His Leu Thr Ala Val Thr Ile Phe Tyr Ala Thr Leu Phe Phe 245 250 255			768
atg tat ctc aga ccc ccc tca aag gaa tct gtt gaa cag ggt aaa atg Met Tyr Leu Arg Pro Pro Ser Lys Glu Ser Val Glu Gln Gly Lys Met 260 265 270			816
gta gct gta ttt tat acc aca gta atc cct atg ctg aac ctt ata att Val Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Leu Ile Ile 275 280 285			864

tat agc ctt aga aat aaa aat gta aaa gaa gca tta atc aaa gag ctg 912  
 Tyr Ser Leu Arg Asn Lys Asn Val Lys Glu Ala Leu Ile Lys Glu Leu  
           290                                  295                                  300

tca atg aag ata tac ttt tct taa 936  
 Ser Met Lys Ile Tyr Phe Ser  
           305                                  310

<210> 86  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 86

Met Arg Arg Asn Cys Thr Leu Val Thr Glu Phe Ile Leu Leu Gly Leu  
   1                                  5                                  10                                  15

Thr Ser Arg Arg Glu Leu Gln Ile Leu Leu Phe Thr Leu Phe Leu Ala  
                                   20                                  25                                  30

Ile Tyr Met Val Thr Val Ala Gly Asn Leu Gly Met Ile Val Leu Ile  
                                   35                                  40                                  45

Gln Ala Asn Ala Trp Leu His Met Pro Met Tyr Phe Phe Leu Ser His  
                                   50                                  55                                  60

Leu Ser Phe Val Asp Leu Cys Phe Ser Ser Asn Val Thr Pro Lys Met  
   65                                  70                                  75                                  80

Leu Glu Ile Phe Leu Ser Glu Lys Lys Ser Ile Ser Tyr Pro Ala Cys  
                                   85                                  90                                  95

Leu Val Gln Cys Tyr Leu Phe Ile Ala Leu Val His Val Glu Ile Tyr  
                                   100                                  105                                  110

Ile Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Asn Pro  
                                   115                                  120                                  125

Leu Leu Tyr Gly Ser Arg Met Ser Lys Ser Val Cys Ser Phe Leu Ile  
                                   130                                  135                                  140

Thr Val Pro Tyr Val Tyr Gly Ala Leu Thr Gly Leu Met Glu Thr Met  
   145                                  150                                  155                                  160

Trp Thr Tyr Asn Leu Ala Phe Cys Gly Pro Asn Glu Ile Asn His Phe  
                                   165                                  170                                  175

Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ala Cys Ser Asp Thr Tyr  
 180 185 190

Asn Lys Glu Leu Ser Met Phe Ile Val Ala Gly Trp Asn Leu Ser Phe  
 195 200 205

Ser Leu Phe Ile Ile Cys Ile Ser Tyr Leu Tyr Ile Phe Pro Ala Ile  
 210 215 220

Leu Lys Ile Arg Ser Thr Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys  
 225 230 235 240

Gly Ser His Leu Thr Ala Val Thr Ile Phe Tyr Ala Thr Leu Phe Phe  
 245 250 255

Met Tyr Leu Arg Pro Pro Ser Lys Glu Ser Val Glu Gln Gly Lys Met  
 260 265 270

Val Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Leu Ile Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asn Val Lys Glu Ala Leu Ile Lys Glu Leu  
 290 295 300

Ser Met Lys Ile Tyr Phe Ser  
 305 310

<210> 87  
 <211> 924  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(921)  
 <223>

<400> 87	
atg ctc aat ttc acc gat gtg aca gag ttc att ctt ttg ggg cta acg	48
Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr	
1 5 10 15	
agc cgt cga gaa tgg caa gtt ctc ttc ttc atc atc ttt ctt gtg gtc	96
Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val	
20 25 30	
tac atc atc acc atg gtg ggc aat atc ggc atg atg gtg tta atc aag	144
Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys	
35 40 45	
gtc agt cct cag ctt aac aac ccc atg tac ttt ttc ctc agt cac ttg	192

Val	Ser	Pro	Gln	Leu	Asn	Asn	Pro	Met	Tyr	Phe	Phe	Leu	Ser	His	Leu		
50						55					60						
tca	ttt	gtt	gat	gtg	tgg	ttt	tct	tcc	aat	gtc	acc	cct	aaa	atg	ttg	240	
Ser	Phe	Val	Asp	Val	Trp	Phe	Ser	Ser	Asn	Val	Thr	Pro	Lys	Met	Leu		
65					70					75					80		
gaa	aac	ctg	ttt	tca	gat	aaa	aaa	aca	att	act	tat	gct	ggg	tgt	tta	288	
Glu	Asn	Leu	Phe	Ser	Asp	Lys	Lys	Thr	Ile	Thr	Tyr	Ala	Gly	Cys	Leu		
				85					90					95			
gta	cag	tgt	ttc	ttc	ttc	att	gct	ctt	gtc	cat	gtg	gaa	att	ttt	att	336	
Val	Gln	Cys	Phe	Phe	Phe	Ile	Ala	Leu	Val	His	Val	Glu	Ile	Phe	Ile		
			100					105						110			
ctt	gct	gcg	atg	gcc	ttt	gat	aga	tac	atg	gca	att	ggg	aat	cct	ctg	384	
Leu	Ala	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Met	Ala	Ile	Gly	Asn	Pro	Leu		
		115					120					125					
ctt	tat	ggc	agt	aaa	atg	tca	agg	gtt	gtc	tgt	att	cga	ctg	att	act	432	
Leu	Tyr	Gly	Ser	Lys	Met	Ser	Arg	Val	Val	Cys	Ile	Arg	Leu	Ile	Thr		
	130					135					140						
ttc	cct	tac	att	tat	ggg	ttt	ctg	acg	agt	ctg	gca	gca	aca	tta	tgg	480	
Phe	Pro	Tyr	Ile	Tyr	Gly	Phe	Leu	Thr	Ser	Leu	Ala	Ala	Thr	Leu	Trp		
145					150					155					160		
act	tac	ggc	ttg	tac	ttc	tgt	gga	aaa	att	gag	atc	aac	cat	ttc	tac	528	
Thr	Tyr	Gly	Leu	Tyr	Phe	Cys	Gly	Lys	Ile	Glu	Ile	Asn	His	Phe	Tyr		
				165					170					175			
tgt	gca	gat	cca	cct	ctc	atc	aaa	atg	gcc	tgt	gcc	ggg	acc	ttt	gta	576	
Cys	Ala	Asp	Pro	Pro	Leu	Ile	Lys	Met	Ala	Cys	Ala	Gly	Thr	Phe	Val		
			180					185					190				
aaa	gaa	tat	aca	atg	atc	ata	ctt	gcc	ggc	att	aac	ttc	aca	tat	tcc	624	
Lys	Glu	Tyr	Thr	Met	Ile	Ile	Leu	Ala	Gly	Ile	Asn	Phe	Thr	Tyr	Ser		
		195					200					205					
ctg	act	gta	att	atc	atc	tct	tac	tta	ttc	atc	ctc	att	gcc	att	ctg	672	
Leu	Thr	Val	Ile	Ile	Ile	Ser	Tyr	Leu	Phe	Ile	Leu	Ile	Ala	Ile	Leu		
		210				215					220						
cga	atg	cgc	tca	gca	gaa	gga	agg	cag	aag	gcc	ttt	tcc	aca	tgt	ggg	720	
Arg	Met	Arg	Ser	Ala	Glu	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	Gly		
225					230					235					240		
tcc	cat	ctg	aca	gct	gtc	att	ata	ttc	tat	ggg	act	ctg	atc	ttc	atg	768	
Ser	His	Leu	Thr	Ala	Val	Ile	Ile	Phe	Tyr	Gly	Thr	Leu	Ile	Phe	Met		
				245					250					255			
tat	ctc	aga	cgt	ccc	aca	gag	gag	tct	gtg	gag	cag	ggg	aag	atg	gtg	816	
Tyr	Leu	Arg	Arg	Pro	Thr	Glu	Glu	Ser	Val	Glu	Gln	Gly	Lys	Met	Val		
			260					265						270			
gct	gtg	ttc	tat	acc	aca	gtg	atc	ccc	atg	ttg	aat	ccc	atg	atc	tac	864	
Ala	Val	Phe	Tyr	Thr	Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr		
		275					280					285					
agt	ctg	agg	aac	aag	gat	gtg	aaa	aag	gcc	atg	atg	aaa	gtg	atc	agc	912	
Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Lys	Ala	Met	Met	Lys	Val	Ile	Ser		

290 295 300 924

aga tca tgt taa  
Arg Ser Cys  
305

<210> 88  
<211> 307  
<212> PRT  
<213> Homo Sapiens

<400> 88

Met Leu Asn Phe Thr Asp Val Thr Glu Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15

Ser Arg Arg Glu Trp Gln Val Leu Phe Phe Ile Ile Phe Leu Val Val  
20 25 30

Tyr Ile Ile Thr Met Val Gly Asn Ile Gly Met Met Val Leu Ile Lys  
35 40 45

Val Ser Pro Gln Leu Asn Asn Pro Met Tyr Phe Phe Leu Ser His Leu  
50 55 60

Ser Phe Val Asp Val Trp Phe Ser Ser Asn Val Thr Pro Lys Met Leu  
65 70 75 80

Glu Asn Leu Phe Ser Asp Lys Lys Thr Ile Thr Tyr Ala Gly Cys Leu  
85 90 95

Val Gln Cys Phe Phe Phe Ile Ala Leu Val His Val Glu Ile Phe Ile  
100 105 110

Leu Ala Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Gly Asn Pro Leu  
115 120 125

Leu Tyr Gly Ser Lys Met Ser Arg Val Val Cys Ile Arg Leu Ile Thr  
130 135 140

Phe Pro Tyr Ile Tyr Gly Phe Leu Thr Ser Leu Ala Ala Thr Leu Trp  
145 150 155 160

Thr Tyr Gly Leu Tyr Phe Cys Gly Lys Ile Glu Ile Asn His Phe Tyr  
165 170 175

Cys Ala Asp Pro Pro Leu Ile Lys Met Ala Cys Ala Gly Thr Phe Val  
180 185 190



Lys Glu Tyr Thr Met Ile Ile Leu Ala Gly Ile Asn Phe Thr Tyr Ser  
195 200 205

Leu Thr Val Ile Ile Ile Ser Tyr Leu Phe Ile Leu Ile Ala Ile Leu  
210 215 220

Arg Met Arg Ser Ala Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Gly  
225 230 235 240

Ser His Leu Thr Ala Val Ile Ile Phe Tyr Gly Thr Leu Ile Phe Met  
245 250 255

Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val  
260 265 270

Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr  
275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Met Met Lys Val Ile Ser  
290 295 300

Arg Ser Cys  
305

<210> 89  
<211> 918  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(915)  
<223>

<400> 89  
atg tcc aac aca aat ggc agt gca atc aca gaa ttc att tta ctt ggg 48  
Met Ser Asn Thr Asn Gly Ser Ala Ile Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15  
ctc aca gat tgc ccg gaa ctc cag tct ctg ctt ttt gtg ctg ttt ctg 96  
Leu Thr Asp Cys Pro Glu Leu Gln Ser Leu Leu Phe Val Leu Phe Leu  
20 25 30  
gtt gtt tac ctc gtc acc ctg cta ggc aac ctg ggc atg ata atg tta 144  
Val Val Tyr Leu Val Thr Leu Leu Gly Asn Leu Gly Met Ile Met Leu  
35 40 45  
atg aga ctg gac tct cgc ctt cac acg ccc atg tac ttc ttc ctc act 192  
Met Arg Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
50 55 60

aac tta gcc ttt gtg gat ttg tgc tat aca tca aat gca acc ccg cag	240
Asn Leu Ala Phe Val Asp Leu Cys Tyr Thr Ser Asn Ala Thr Pro Gln	
65 70 75 80	
atg tcg act aat atc gta tct gag aag acc att tcc ttt gct ggt tgc	288
Met Ser Thr Asn Ile Val Ser Glu Lys Thr Ile Ser Phe Ala Gly Cys	
85 90 95	
ttt aca cag tgc tac att ttc att gcc ctt cta ctc act gag ttt tac	336
Phe Thr Gln Cys Tyr Ile Phe Ile Ala Leu Leu Leu Thr Glu Phe Tyr	
100 105 110	
atg ctg gca gca atg gcc tat gac cgc tat gtg gcc ata tat gac cct	384
Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asp Pro	
115 120 125	
ctg cgc tac agt gtg aaa acg tcc agg aga gtt tgc atc tgc ttg gcc	432
Leu Arg Tyr Ser Val Lys Thr Ser Arg Arg Val Cys Ile Cys Leu Ala	
130 135 140	
aca ttt ccc tat gtc tat ggc ttc tca gat gga ctc ttc cag gcc atc	480
Thr Phe Pro Tyr Val Tyr Gly Phe Ser Asp Gly Leu Phe Gln Ala Ile	
145 150 155 160	
ctg acc ttc cgc ctg acc ttc tgt aga tcc aat gtc atc aac cac ttc	528
Leu Thr Phe Arg Leu Thr Phe Cys Arg Ser Asn Val Ile Asn His Phe	
165 170 175	
tac tgt gct gac ccg ccg ctc att aag ctt tct tgt tct gat act tat	576
Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ser Cys Ser Asp Thr Tyr	
180 185 190	
gtc aaa gag cat gcc atg ttc ata tct gct ggc ttc aac ctc tcc agc	624
Val Lys Glu His Ala Met Phe Ile Ser Ala Gly Phe Asn Leu Ser Ser	
195 200 205	
tcc ctc acc atc gtc ttg gtg tcc tat gcc ttc att ctt gct gcc atc	672
Ser Leu Thr Ile Val Leu Val Ser Tyr Ala Phe Ile Leu Ala Ala Ile	
210 215 220	
ctc cgg atc aaa tca gca gag gga agg cac aag gca ttc tcc acc tgt	720
Leu Arg Ile Lys Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr Cys	
225 230 235 240	
ggt tcc cat atg atg gct gtc acc ctg ttt tat ggg act ctc ttt tgc	768
Gly Ser His Met Met Ala Val Thr Leu Phe Tyr Gly Thr Leu Phe Cys	
245 250 255	
atg tat ata aga cca cca aca gat aag act gtt gag gaa tct aaa ata	816
Met Tyr Ile Arg Pro Pro Thr Asp Lys Thr Val Glu Glu Ser Lys Ile	
260 265 270	
ata gct gtc ttt tac acc ttt gtg agt ccg gta ctt aat cca ttg atc	864
Ile Ala Val Phe Tyr Thr Phe Val Ser Pro Val Leu Asn Pro Leu Ile	
275 280 285	
tac agt ctg agg aat aaa gat gtg aag cag gcc ttg aag aat gtc ctg	912
Tyr Ser Leu Arg Asn Lys Asp Val Lys Gln Ala Leu Lys Asn Val Leu	
290 295 300	
aga tga	918

Arg  
305

<210> 90  
<211> 305  
<212> PRT  
<213> Homo Sapiens

<400> 90

Met Ser Asn Thr Asn Gly Ser Ala Ile Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15

Leu Thr Asp Cys Pro Glu Leu Gln Ser Leu Leu Phe Val Leu Phe Leu  
20 25 30

Val Val Tyr Leu Val Thr Leu Leu Gly Asn Leu Gly Met Ile Met Leu  
35 40 45

Met Arg Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Thr  
50 55 60

Asn Leu Ala Phe Val Asp Leu Cys Tyr Thr Ser Asn Ala Thr Pro Gln  
65 70 75 80

Met Ser Thr Asn Ile Val Ser Glu Lys Thr Ile Ser Phe Ala Gly Cys  
85 90 95

Phe Thr Gln Cys Tyr Ile Phe Ile Ala Leu Leu Leu Thr Glu Phe Tyr  
100 105 110

Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asp Pro  
115 120 125

Leu Arg Tyr Ser Val Lys Thr Ser Arg Arg Val Cys Ile Cys Leu Ala  
130 135 140

Thr Phe Pro Tyr Val Tyr Gly Phe Ser Asp Gly Leu Phe Gln Ala Ile  
145 150 155 160

Leu Thr Phe Arg Leu Thr Phe Cys Arg Ser Asn Val Ile Asn His Phe  
165 170 175

Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ser Cys Ser Asp Thr Tyr  
180 185 190

Val Lys Glu His Ala Met Phe Ile Ser Ala Gly Phe Asn Leu Ser Ser  
195 200 205

Ser Leu Thr Ile Val Leu Val Ser Tyr Ala Phe Ile Leu Ala Ala Ile  
 210 215 220  
 Leu Arg Ile Lys Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 Gly Ser His Met Met Ala Val Thr Leu Phe Tyr Gly Thr Leu Phe Cys  
 245 250 255  
 Met Tyr Ile Arg Pro Pro Thr Asp Lys Thr Val Glu Glu Ser Lys Ile  
 260 265 270  
 Ile Ala Val Phe Tyr Thr Phe Val Ser Pro Val Leu Asn Pro Leu Ile  
 275 280 285  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Gln Ala Leu Lys Asn Val Leu  
 290 295 300  
 Arg  
 305

<210> 91  
 <211> 933  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(930)  
 <223>

<220>  
 <221> misc\_feature  
 <222> (378)..(378)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (436)..(438)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (443)..(444)  
 <223> unknown

<400> 91  
 atg cct aat ttc acg gat gtg aca gaa ttt act ctc ctg ggg ctg acc

48

Met	Pro	Asn	Phe	Thr	Asp	Val	Thr	Glu	Phe	Thr	Leu	Leu	Gly	Leu	Thr	
1				5					10					15		
tgt	cgt	cag	gag	cta	cag	gtt	ctc	ttt	ttt	gtg	gtg	ttc	cta	gcg	gtt	96
Cys	Arg	Gln	Glu	Leu	Gln	Val	Leu	Phe	Phe	Val	Val	Phe	Leu	Ala	Val	
			20					25					30			
tac	atg	atc	act	ctg	ttg	gga	aat	att	ggg	atg	atc	att	ttg	att	agc	144
Tyr	Met	Ile	Thr	Leu	Leu	Gly	Asn	Ile	Gly	Met	Ile	Ile	Leu	Ile	Ser	
		35					40					45				
atc	agt	cct	cag	ctt	cag	agt	ccc	atg	tac	ttt	ttc	ctg	agt	cat	ctg	192
Ile	Ser	Pro	Gln	Leu	Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ser	His	Leu	
	50					55					60					
tct	ttt	gcg	gac	gtg	tgc	ttc	tcc	tcc	aac	gtt	acc	ccc	aaa	atg	ctg	240
Ser	Phe	Ala	Asp	Val	Cys	Phe	Ser	Ser	Asn	Val	Thr	Pro	Lys	Met	Leu	
65					70				75					80		
gaa	aac	tta	tta	tca	gag	aca	aaa	acc	att	tcc	tat	gtg	gga	tgc	ttg	288
Glu	Asn	Leu	Leu	Ser	Glu	Thr	Lys	Thr	Ile	Ser	Tyr	Val	Gly	Cys	Leu	
				85					90					95		
gtg	cag	tgc	tac	ttt	ttc	att	gcc	gtt	gtc	cac	gtg	gag	gtc	tat	atc	336
Val	Gln	Cys	Tyr	Phe	Phe	Ile	Ala	Val	Val	His	Val	Glu	Val	Tyr	Ile	
			100				105						110			
ctg	gct	gtg	atg	gcc	ttt	gac	agg	tac	atg	gcc	ggc	tgc	aan	cct	ctg	384
Leu	Ala	Val	Met	Ala	Phe	Asp	Arg	Tyr	Met	Ala	Gly	Cys	Xaa	Pro	Leu	
		115					120					125				
ctt	tat	ggc	agt	aaa	atg	tct	agg	act	gtg	tgt	gtt	cgg	ctc	atc	tct	432
Leu	Tyr	Gly	Ser	Lys	Met	Ser	Arg	Thr	Val	Cys	Val	Arg	Leu	Ile	Ser	
	130					135					140					
gtg	nnn	tat	gnn	tat	gga	ttc	tct	gtc	agc	cta	ata	tgc	aca	cta	tgg	480
Val	Xaa	Tyr	Xaa	Tyr	Gly	Phe	Ser	Val	Ser	Leu	Ile	Cys	Thr	Leu	Trp	
145					150					155					160	
act	tat	ggc	tta	tac	ttc	tgt	gga	aac	ttt	gaa	atc	aat	cac	ttc	tat	528
Thr	Tyr	Gly	Leu	Tyr	Phe	Cys	Gly	Asn	Phe	Glu	Ile	Asn	His	Phe	Tyr	
				165					170					175		
tgt	gca	gat	ccc	cct	ctc	atc	cag	att	gcc	tgt	ggg	aga	gtg	cac	atc	576
Cys	Ala	Asp	Pro	Pro	Leu	Ile	Gln	Ile	Ala	Cys	Gly	Arg	Val	His	Ile	
			180					185					190			
aaa	gaa	atc	aca	atg	att	gtt	att	gct	gga	att	aac	ttc	aca	tat	tcc	624
Lys	Glu	Ile	Thr	Met	Ile	Val	Ile	Ala	Gly	Ile	Asn	Phe	Thr	Tyr	Ser	
		195					200					205				
ctc	tcg	gtg	gtc	ctc	atc	tcc	tac	act	ctc	att	gta	gta	gct	gtg	cta	672
Leu	Ser	Val	Val	Leu	Ile	Ser	Tyr	Thr	Leu	Ile	Val	Val	Ala	Val	Leu	
	210					215					220					
cgc	atg	cgc	tct	gcc	gat	ggc	agg	agg	aag	gcg	ttc	tcc	acc	tgt	ggg	720
Arg	Met	Arg	Ser	Ala	Asp	Gly	Arg	Arg	Lys	Ala	Phe	Ser	Thr	Cys	Gly	
225					230					235				240		
tcc	cac	ttg	acg	gct	gtt	tct	atg	ttt	tat	ggg	acc	ccc	atc	ttc	atg	768
Ser	His	Leu	Thr	Ala	Val	Ser	Met	Phe	Tyr	Gly	Thr	Pro	Ile	Phe	Met	

	245	250	255	
tat ctc agg aga ccc act gag gaa tcc gta gag cag ggc aaa atg gtg				816
Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val				
	260	265	270	
gct gtg ttt tac acc aca gta att cct atg ttg aat ccc atg atc tac				864
Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr				
	275	280	285	
agt ctg aga aat aag gat gta aaa gaa gca gtc aac aaa gca atc acc				912
Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Asn Lys Ala Ile Thr				
	290	295	300	
aag aca tat gtg agg cag taa				933
Lys Thr Tyr Val Arg Gln				
	305	310		

<210> 92  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<220>  
 <221> misc\_feature  
 <222> (126)..(126)  
 <223> The 'Xaa' at location 126 stands for Lys, or Asn.

<220>  
 <221> misc\_feature  
 <222> (146)..(146)  
 <223> The 'Xaa' at location 146 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, a stop codon, Tyr, Trp, Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (148)..(148)  
 <223> The 'Xaa' at location 148 stands for Glu, Asp, Gly, Ala, or Val.

<220>  
 <221> misc\_feature  
 <222> (378)..(378)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (436)..(438)  
 <223> unknown

<220>  
 <221> misc\_feature  
 <222> (443)..(444)  
 <223> unknown

<400> 92

Met	Pro	Asn	Phe	Thr	Asp	Val	Thr	Glu	Phe	Thr	Leu	Leu	Gly	Leu	Thr
1				5				10					15		

Cys Arg Gln Glu Leu Gln Val Leu Phe Phe Val Val Phe Leu Ala Val  
 20 25 30  
 Tyr Met Ile Thr Leu Leu Gly Asn Ile Gly Met Ile Ile Leu Ile Ser  
 35 40 45  
 Ile Ser Pro Gln Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60  
 Ser Phe Ala Asp Val Cys Phe Ser Ser Asn Val Thr Pro Lys Met Leu  
 65 70 75 80  
 Glu Asn Leu Leu Ser Glu Thr Lys Thr Ile Ser Tyr Val Gly Cys Leu  
 85 90 95  
 Val Gln Cys Tyr Phe Phe Ile Ala Val Val His Val Glu Val Tyr Ile  
 100 105 110  
 Leu Ala Val Met Ala Phe Asp Arg Tyr Met Ala Gly Cys Xaa Pro Leu  
 115 120 125  
 Leu Tyr Gly Ser Lys Met Ser Arg Thr Val Cys Val Arg Leu Ile Ser  
 130 135 140  
 Val Xaa Tyr Xaa Tyr Gly Phe Ser Val Ser Leu Ile Cys Thr Leu Trp  
 145 150 155 160  
 Thr Tyr Gly Leu Tyr Phe Cys Gly Asn Phe Glu Ile Asn His Phe Tyr  
 165 170 175  
 Cys Ala Asp Pro Pro Leu Ile Gln Ile Ala Cys Gly Arg Val His Ile  
 180 185 190  
 Lys Glu Ile Thr Met Ile Val Ile Ala Gly Ile Asn Phe Thr Tyr Ser  
 195 200 205  
 Leu Ser Val Val Leu Ile Ser Tyr Thr Leu Ile Val Val Ala Val Leu  
 210 215 220  
 Arg Met Arg Ser Ala Asp Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240  
 Ser His Leu Thr Ala Val Ser Met Phe Tyr Gly Thr Pro Ile Phe Met  
 245 250 255

Tyr Leu Arg Arg Pro Thr Glu Glu Ser Val Glu Gln Gly Lys Met Val  
 260 265 270

Ala Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr  
 275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Asn Lys Ala Ile Thr  
 290 295 300

Lys Thr Tyr Val Arg Gln  
 305 310

<210> 93

<211> 933

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(930)

<223>

<400> 93

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 Met Gly Arg Asn Asn Leu Thr Arg Pro Ser Glu Phe Ile Leu Leu Gly  
 1 5 10 15

ctc tcc tct cga cct gag gat cag aag ccg ctc ttt gct gtg ttc ctc 96  
 Leu Ser Ser Arg Pro Glu Asp Gln Lys Pro Leu Phe Ala Val Phe Leu  
 20 25 30

ccc atc tac ctt atc aca gtg ata gga aac ctg ctt atc atc ctg gcc 144  
 Pro Ile Tyr Leu Ile Thr Val Ile Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

atc cgc tca gac act cgt ctc cag acg ccc atg tac ttc ttt cta agc 192  
 Ile Arg Ser Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

atc ctg tct ttt gtt gac att tgc tat gtg aca gtc att atc cct aag 240  
 Ile Leu Ser Phe Val Asp Ile Cys Tyr Val Thr Val Ile Ile Pro Lys  
 65 70 75 80

atg ctg gtg aac ttc tta tca gag aca aag acc atc tct tac agt gag 288  
 Met Leu Val Asn Phe Leu Ser Glu Thr Lys Thr Ile Ser Tyr Ser Glu  
 85 90 95

tgt ctg acc cag atg tac ttt ttc tta gcc ttt gga aac aca gac agt 336  
 Cys Leu Thr Gln Met Tyr Phe Phe Leu Ala Phe Gly Asn Thr Asp Ser  
 100 105 110

tac ctg cta gca gcc atg gcc att gac cgc tat gtg gcc ata tgt aat 384  
 Tyr Leu Leu Ala Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

ccc ttc cac tac atc acc att atg agt cac aga tgc tgt gtc ctg ctt 432



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Pro Phe His Tyr Ile Thr Ile Met Ser His Arg Cys Cys Val Leu Leu
  130                               135                     140

ctg gtt ctc tcc ttc tgc att cca cat ttt cac tcc ctc ctg cac att      480
Leu Val Leu Ser Phe Cys Ile Pro His Phe His Ser Leu Leu His Ile
  145                               150                     155                     160

ctt ctg act aat cag ctc atc ttc tgt gcc tca aat gtc atc cat cac      528
Leu Leu Thr Asn Gln Leu Ile Phe Cys Ala Ser Asn Val Ile His His
                               165                     170                     175

ttt ttc tgc gat gat caa cca gtg cta aaa ttg tcc tgt tcc tcc cat      576
Phe Phe Cys Asp Asp Gln Pro Val Leu Lys Leu Ser Cys Ser Ser His
                               180                     185                     190

ttt gtc aaa gaa atc aca gta atg aca gaa ggc ttg gct gtc ata atg      624
Phe Val Lys Glu Ile Thr Val Met Thr Glu Gly Leu Ala Val Ile Met
                               195                     200                     205

acc ccg ttt tca tgc atc atc atc tct tat tta aga atc ctc atc act      672
Thr Pro Phe Ser Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Thr
                               210                     215                     220

gtt ctg aag att cct tca gct gct gga aag cgt aaa gca ttt tct acc      720
Val Leu Lys Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Phe Ser Thr
                               225                     230                     235                     240

tgt ggc tct cat ctc aca gtg gtg acc ctg ttt tat gga agc att agc      768
Cys Gly Ser His Leu Thr Val Val Thr Leu Phe Tyr Gly Ser Ile Ser
                               245                     250                     255

tat ctc tat ttt cag ccc ctg tcc aac tat act gtc aag gat caa ata      816
Tyr Leu Tyr Phe Gln Pro Leu Ser Asn Tyr Thr Val Lys Asp Gln Ile
                               260                     265                     270

gca aca att atc tac acc gta ctg act cct atg cta aat cca ttt atc      864
Ala Thr Ile Ile Tyr Thr Val Leu Thr Pro Met Leu Asn Pro Phe Ile
                               275                     280                     285

tat agt ctg agg aac aaa gac atg aag cag ggt ttg gca aag ttg atg      912
Tyr Ser Leu Arg Asn Lys Asp Met Lys Gln Gly Leu Ala Lys Leu Met
                               290                     295                     300

cac agg atg aaa tgt cag taa      933
His Arg Met Lys Cys Gln
  305                               310

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&lt;210&gt; 94

&lt;211&gt; 310

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 94

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Met Gly Arg Asn Asn Leu Thr Arg Pro Ser Glu Phe Ile Leu Leu Gly
  1                               5                     10                     15

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Leu Ser Ser Arg Pro Glu Asp Gln Lys Pro Leu Phe Ala Val Phe Leu
  20                               25                     30

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Pro Ile Tyr Leu Ile Thr Val Ile Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

Ile Arg Ser Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Ile Leu Ser Phe Val Asp Ile Cys Tyr Val Thr Val Ile Ile Pro Lys  
 65 70 75 80

Met Leu Val Asn Phe Leu Ser Glu Thr Lys Thr Ile Ser Tyr Ser Glu  
 85 90 95

Cys Leu Thr Gln Met Tyr Phe Phe Leu Ala Phe Gly Asn Thr Asp Ser  
 100 105 110

Tyr Leu Leu Ala Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Phe His Tyr Ile Thr Ile Met Ser His Arg Cys Cys Val Leu Leu  
 130 135 140

Leu Val Leu Ser Phe Cys Ile Pro His Phe His Ser Leu Leu His Ile  
 145 150 155 160

Leu Leu Thr Asn Gln Leu Ile Phe Cys Ala Ser Asn Val Ile His His  
 165 170 175

Phe Phe Cys Asp Asp Gln Pro Val Leu Lys Leu Ser Cys Ser Ser His  
 180 185 190

Phe Val Lys Glu Ile Thr Val Met Thr Glu Gly Leu Ala Val Ile Met  
 195 200 205

Thr Pro Phe Ser Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Thr  
 210 215 220

Val Leu Lys Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Thr Leu Phe Tyr Gly Ser Ile Ser  
 245 250 255

Tyr Leu Tyr Phe Gln Pro Leu Ser Asn Tyr Thr Val Lys Asp Gln Ile  
 260 265 270

Ala Thr Ile Ile Tyr Thr Val Leu Thr Pro Met Leu Asn Pro Phe Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Met Lys Gln Gly Leu Ala Lys Leu Met  
 290 295 300

His Arg Met Lys Cys Gln  
 305 310

<210> 95  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)  
 <223>

<400> 95  
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 Met Gly Lys Pro Gly Arg Val Asn Gln Thr Thr Val Ser Asp Phe Leu  
 1 5 10 15  
 ctt cta gga ctc tct gag tgg cca gag gag cag cct ctt ctg ttt ggc 96  
 Leu Leu Gly Leu Ser Glu Trp Pro Glu Glu Gln Pro Leu Leu Phe Gly  
 20 25 30  
 atc ttc ctt ggc atg tac ctg gtc acc atg gtg ggg aac ctg ctc att 144  
 Ile Phe Leu Gly Met Tyr Leu Val Thr Met Val Gly Asn Leu Leu Ile  
 35 40 45  
 atc ctg gcc atc agc tct gac cca cac ctc cat act ccc atg tac ttc 192  
 Ile Leu Ala Ile Ser Ser Asp Pro His Leu His Thr Pro Met Tyr Phe  
 50 55 60  
 ttt ctg gcc aac ctg tca tta act gat gcc tgt ttc act tct gcc tcc 240  
 Phe Leu Ala Asn Leu Ser Leu Thr Asp Ala Cys Phe Thr Ser Ala Ser  
 65 70 75 80  
 atc ccc aaa atg ctg gcc aac att cat acc cag agt cag atc atc tcg 288  
 Ile Pro Lys Met Leu Ala Asn Ile His Thr Gln Ser Gln Ile Ile Ser  
 85 90 95  
 tat tct ggg tgt ctt gca cag cta tat ttc ctc ctt atg ttt ggt ggc 336  
 Tyr Ser Gly Cys Leu Ala Gln Leu Tyr Phe Leu Leu Met Phe Gly Gly  
 100 105 110  
 ctt gac aac tgc ctg ctg gct gtg atg gca tat gac cgc tat gtg gcc 384  
 Leu Asp Asn Cys Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala  
 115 120 125  
 atc tgc caa cca ctc cat tac agc aca tct atg agt ccc cag ctc tgt 432  
 Ile Cys Gln Pro Leu His Tyr Ser Thr Ser Met Ser Pro Gln Leu Cys  
 130 135 140

gca cta atg ctg ggt gtg tgc tgg gtg cta acc aac tgt cct gcc ctg 480  
 Ala Leu Met Leu Gly Val Cys Trp Val Leu Thr Asn Cys Pro Ala Leu  
 145 150 155 160  
  
 atg cac aca ctg ttg ctg acc cgc gtg gct ttc tgt gcc cag aaa gcc 528  
 Met His Thr Leu Leu Leu Thr Arg Val Ala Phe Cys Ala Gln Lys Ala  
 165 170 175  
  
 atc cct cat ttc tat tgt gat cct agt gct ctc ctg aag ctt gcc tgc 576  
 Ile Pro His Phe Tyr Cys Asp Pro Ser Ala Leu Leu Lys Leu Ala Cys  
 180 185 190  
  
 tca gat acc cat gta aac gag ctg atg atc atc acc atg ggc ttg ctg 624  
 Ser Asp Thr His Val Asn Glu Leu Met Ile Ile Thr Met Gly Leu Leu  
 195 200 205  
  
 ttc ctc act gtt ccc ctc ctg ctg atc gtc ttc tcc tat gtc cgc att 672  
 Phe Leu Thr Val Pro Leu Leu Leu Ile Val Phe Ser Tyr Val Arg Ile  
 210 215 220  
  
 ttc tgg gct gtg ttt gtc atc tca tct cct gga ggg aga tgg aag gcc 720  
 Phe Trp Ala Val Phe Val Ile Ser Ser Pro Gly Gly Arg Trp Lys Ala  
 225 230 235 240  
  
 ttc tct acc tgt ggt tct cat ctc acg gtg gtt ctg ctc ttc tat ggg 768  
 Phe Ser Thr Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly  
 245 250 255  
  
 tct ctt atg ggt gtg tat tta ctt cct cca tca act tac tct aca gag 816  
 Ser Leu Met Gly Val Tyr Leu Leu Pro Pro Ser Thr Tyr Ser Thr Glu  
 260 265 270  
  
 agg gaa agt agg gct gct gtt ctc tat atg gtg att att ccc acg cta 864  
 Arg Glu Ser Arg Ala Ala Val Leu Tyr Met Val Ile Ile Pro Thr Leu  
 275 280 285  
  
 aac cca ttc att tat agc ttg agg aac aga gac atg aag gag gct ttg 912  
 Asn Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu  
 290 295 300  
  
 ggt aaa ctt ttt gtc agt gga aaa aca ttc ttt tta tga 951  
 Gly Lys Leu Phe Val Ser Gly Lys Thr Phe Phe Leu  
 305 310 315

<210> 96  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 96

Met Gly Lys Pro Gly Arg Val Asn Gln Thr Thr Val Ser Asp Phe Leu  
1 5 10 15

Leu Leu Gly Leu Ser Glu Trp Pro Glu Glu Gln Pro Leu Leu Phe Gly  
20 25 30

Ile Phe Leu Gly Met Tyr Leu Val Thr Met Val Gly Asn Leu Leu Ile

35	40	45
Ile Leu Ala Ile Ser Ser Asp Pro His Leu His Thr Pro Met Tyr Phe		
50	55	60
Phe Leu Ala Asn Leu Ser Leu Thr Asp Ala Cys Phe Thr Ser Ala Ser		
65	70	75
Ile Pro Lys Met Leu Ala Asn Ile His Thr Gln Ser Gln Ile Ile Ser		
85	90	95
Tyr Ser Gly Cys Leu Ala Gln Leu Tyr Phe Leu Leu Met Phe Gly Gly		
100	105	110
Leu Asp Asn Cys Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala		
115	120	125
Ile Cys Gln Pro Leu His Tyr Ser Thr Ser Met Ser Pro Gln Leu Cys		
130	135	140
Ala Leu Met Leu Gly Val Cys Trp Val Leu Thr Asn Cys Pro Ala Leu		
145	150	155
Met His Thr Leu Leu Leu Thr Arg Val Ala Phe Cys Ala Gln Lys Ala		
165	170	175
Ile Pro His Phe Tyr Cys Asp Pro Ser Ala Leu Leu Lys Leu Ala Cys		
180	185	190
Ser Asp Thr His Val Asn Glu Leu Met Ile Ile Thr Met Gly Leu Leu		
195	200	205
Phe Leu Thr Val Pro Leu Leu Leu Ile Val Phe Ser Tyr Val Arg Ile		
210	215	220
Phe Trp Ala Val Phe Val Ile Ser Ser Pro Gly Gly Arg Trp Lys Ala		
225	230	235
Phe Ser Thr Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly		
245	250	255
Ser Leu Met Gly Val Tyr Leu Leu Pro Pro Ser Thr Tyr Ser Thr Glu		
260	265	270
Arg Glu Ser Arg Ala Ala Val Leu Tyr Met Val Ile Ile Pro Thr Leu		
275	280	285

Asn Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu  
 290 295 300

Gly Lys Leu Phe Val Ser Gly Lys Thr Phe Phe Leu  
 305 310 315

<210> 97  
 <211> 975  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(972)  
 <223>

<400> 97  
 atg gga atg tcc aac ctg aca aga ctc tct gaa ttt att ctc ttg gga 48  
 Met Gly Met Ser Asn Leu Thr Arg Leu Ser Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 ctc tcc tct cgg tct gaa gac cag agg cca ctc ttt gcc ctc ttt ctt 96  
 Leu Ser Ser Arg Ser Glu Asp Gln Arg Pro Leu Phe Ala Leu Phe Leu  
 20 25 30  
 atc ata tac ctg gtc act ttg atg gga aat ctg ctc atc atc ttg gct 144  
 Ile Ile Tyr Leu Val Thr Leu Met Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 atc cac tct gat cct cga ctt caa aac cct atg tat ttt ttc cta agc 192  
 Ile His Ser Asp Pro Arg Leu Gln Asn Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 atc ttg tcc ttt gct gat att tgc tac aca aca gtc ata gtc cca aag 240  
 Ile Leu Ser Phe Ala Asp Ile Cys Tyr Thr Thr Val Ile Val Pro Lys  
 65 70 75 80  
 atg ctc gtg aac ttc tta tca gag aaa aag acc att tcc tat gct gaa 288  
 Met Leu Val Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala Glu  
 85 90 95  
 tgt ctg gca cag atg tat ttc ttc ctg gtt ttt gga aac ata gat agt 336  
 Cys Leu Ala Gln Met Tyr Phe Phe Leu Val Phe Gly Asn Ile Asp Ser  
 100 105 110  
 tat ctc ctg gcg gct atg gcc atc aac cgc tgt gta gcc att tgt aac 384  
 Tyr Leu Leu Ala Ala Met Ala Ile Asn Arg Cys Val Ala Ile Cys Asn  
 115 120 125  
 cca ttc cat tat gtc act gtt atg aac cgc aga tgc tgt gtg ttg cta 432  
 Pro Phe His Tyr Val Thr Val Met Asn Arg Arg Cys Cys Val Leu Leu  
 130 135 140  
 cta gca ttc ccc atc act ttc tcc tat ttc cac tct ctc cta cat gtc 480  
 Leu Ala Phe Pro Ile Thr Phe Ser Tyr Phe His Ser Leu Leu His Val  
 145 150 155 160

ctc ctg gtg aat cgg ctc acc ttt tgt aca tca aat gtt atc cat cat 528  
 Leu Leu Val Asn Arg Leu Thr Phe Cys Thr Ser Asn Val Ile His His  
                     165                    170                    175

ttt ttt tgt gat gtc aac cct gtg ctg aaa ctg tcc tgc tcc tcc acc 576  
 Phe Phe Cys Asp Val Asn Pro Val Leu Lys Leu Ser Cys Ser Ser Thr  
                     180                    185                    190

ttt gtc aat gaa att gtg gcc atg aca gaa ggg ctg gcc tct gtg atg 624  
 Phe Val Asn Glu Ile Val Ala Met Thr Glu Gly Leu Ala Ser Val Met  
                     195                    200                    205

gct cca ttt gtc tgt atc atc atc tct tat cta aga att ctc atc gct 672  
 Ala Pro Phe Val Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Ala  
                     210                    215                    220

gtt ctc aag att ccc tca gca gct gga aaa cac aaa gcc ttc tcc acc 720  
 Val Leu Lys Ile Pro Ser Ala Ala Gly Lys His Lys Ala Phe Ser Thr  
                     225                    230                    235                    240

tgc agc tcc cat ctc act gtg gtg att ctg ttt tat ggg agt att agc 768  
 Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ser Ile Ser  
                     245                    250                    255

tat gtc tat ttg cag cct ttg tcc agc tat act gtc aag gac cga ata 816  
 Tyr Val Tyr Leu Gln Pro Leu Ser Ser Tyr Thr Val Lys Asp Arg Ile  
                     260                    265                    270

gca aca atc aac tac act gtg ttg aca tca gtg ttg aac cca ttt atc 864  
 Ala Thr Ile Asn Tyr Thr Val Leu Thr Ser Val Leu Asn Pro Phe Ile  
                     275                    280                    285

tac agt tta aga aac aaa gac atg aaa cgg ggc tta cag aaa ttg ata 912  
 Tyr Ser Leu Arg Asn Lys Asp Met Lys Arg Gly Leu Gln Lys Leu Ile  
                     290                    295                    300

aac aag att aag tct caa atg agt agg ttc tct aca aag acc aat aaa 960  
 Asn Lys Ile Lys Ser Gln Met Ser Arg Phe Ser Thr Lys Thr Asn Lys  
                     305                    310                    315                    320

atc tgt gga ccc tga 975  
 Ile Cys Gly Pro

<210> 98  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 98

Met Gly Met Ser Asn Leu Thr Arg Leu Ser Glu Phe Ile Leu Leu Gly  
 1                    5                    10                    15

Leu Ser Ser Arg Ser Glu Asp Gln Arg Pro Leu Phe Ala Leu Phe Leu  
                     20                    25                    30

Ile Ile Tyr Leu Val Thr Leu Met Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 Ile His Ser Asp Pro Arg Leu Gln Asn Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 Ile Leu Ser Phe Ala Asp Ile Cys Tyr Thr Thr Val Ile Val Pro Lys  
 65 70 75 80  
 Met Leu Val Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala Glu  
 85 90 95  
 Cys Leu Ala Gln Met Tyr Phe Phe Leu Val Phe Gly Asn Ile Asp Ser  
 100 105 110  
 Tyr Leu Leu Ala Ala Met Ala Ile Asn Arg Cys Val Ala Ile Cys Asn  
 115 120 125  
 Pro Phe His Tyr Val Thr Val Met Asn Arg Arg Cys Cys Val Leu Leu  
 130 135 140  
 Leu Ala Phe Pro Ile Thr Phe Ser Tyr Phe His Ser Leu Leu His Val  
 145 150 155 160  
 Leu Leu Val Asn Arg Leu Thr Phe Cys Thr Ser Asn Val Ile His His  
 165 170 175  
 Phe Phe Cys Asp Val Asn Pro Val Leu Lys Leu Ser Cys Ser Ser Thr  
 180 185 190  
 Phe Val Asn Glu Ile Val Ala Met Thr Glu Gly Leu Ala Ser Val Met  
 195 200 205  
 Ala Pro Phe Val Cys Ile Ile Ile Ser Tyr Leu Arg Ile Leu Ile Ala  
 210 215 220  
 Val Leu Lys Ile Pro Ser Ala Ala Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ser Ile Ser  
 245 250 255  
 Tyr Val Tyr Leu Gln Pro Leu Ser Ser Tyr Thr Val Lys Asp Arg Ile  
 260 265 270  
 Ala Thr Ile Asn Tyr Thr Val Leu Thr Ser Val Leu Asn Pro Phe Ile



275

280

285

Tyr Ser Leu Arg Asn Lys Asp Met Lys Arg Gly Leu Gln Lys Leu Ile  
 290 295 300

Asn Lys Ile Lys Ser Gln Met Ser Arg Phe Ser Thr Lys Thr Asn Lys  
 305 310 315 320

Ile Cys Gly Pro

<210> 99  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(933)  
 <223>

<400> 99  
 atg gaa aac caa tcc agc att tct gaa ttt ttc ctc cga gga ata tca 48  
 Met Glu Asn Gln Ser Ser Ile Ser Glu Phe Phe Leu Arg Gly Ile Ser  
 1 5 10 15  
 gcg cct cca gag caa cag cag tcc ctc ttc gga att ttc ctg tgt atg 96  
 Ala Pro Pro Glu Gln Gln Gln Ser Leu Phe Gly Ile Phe Leu Cys Met  
 20 25 30  
 tat ctt gtc acc ttg act ggg aac ctg ctc atc atc ctg gcc att ggc 144  
 Tyr Leu Val Thr Leu Thr Gly Asn Leu Leu Ile Ile Leu Ala Ile Gly  
 35 40 45  
 tct gac ctg cac ctc cac acc ccc atg tac ttt ttc ttg gcc aac ctg 192  
 Ser Asp Leu His Leu His Thr Pro Met Tyr Phe Phe Leu Ala Asn Leu  
 50 55 60  
 tct ttt gtt gac atg ggt tta acg tcc tcc aca gtt acc aag atg ctg 240  
 Ser Phe Val Asp Met Gly Leu Thr Ser Ser Thr Val Thr Lys Met Leu  
 65 70 75 80  
 gtg aat ata cag act cgg cat cac acc atc tcc tat acg ggt tgc ctc 288  
 Val Asn Ile Gln Thr Arg His His Thr Ile Ser Tyr Thr Gly Cys Leu  
 85 90 95  
 acg caa atg tat ttc ttt ctg atg ttt ggt gat cta gac agc ttc ttc 336  
 Thr Gln Met Tyr Phe Phe Leu Met Phe Gly Asp Leu Asp Ser Phe Phe  
 100 105 110  
 ctg gct gcc atg gcg tat gac cgc tat gtg gcc att tgc cac ccc ctc 384  
 Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu  
 115 120 125  
 tgc tac tcc aca gtc atg agg ccc caa gtc tgt gcc cta atg ctt gca 432  
 Cys Tyr Ser Thr Val Met Arg Pro Gln Val Cys Ala Leu Met Leu Ala

130	135	140	
ttg tgc tgg gtc ctc acc aat atc gtt gcc ctg act cac acg ttc ctc			480
Leu Cys Trp Val Leu Thr Asn Ile Val Ala Leu Thr His Thr Phe Leu			
145	150	155	160
atg gct cgg ttg tcc ttc tgt gtg act ggg gaa att gct cac ttt ttc			528
Met Ala Arg Leu Ser Phe Cys Val Thr Gly Glu Ile Ala His Phe Phe			
	165	170	175
tgt gac atc act cct gtc ctg aag ctg tca tgt tct gac acc cac atc			576
Cys Asp Ile Thr Pro Val Leu Lys Leu Ser Cys Ser Asp Thr His Ile			
	180	185	190
aac gag atg atg gtt ttt gtc ttg gga ggc acc gta ctc atc gtc ccc			624
Asn Glu Met Met Val Phe Val Leu Gly Gly Thr Val Leu Ile Val Pro			
	195	200	205
ttt tta tgc att gtc acc tcc tac atc cac att gtg cca gct atc ctg			672
Phe Leu Cys Ile Val Thr Ser Tyr Ile His Ile Val Pro Ala Ile Leu			
	210	215	220
agg gtc cga acc cgt ggt ggg gtg ggc aag gcc ttt tcc acc tgc agt			720
Arg Val Arg Thr Arg Gly Gly Val Gly Lys Ala Phe Ser Thr Cys Ser			
	225	230	235
tcc cac ctc tgc gtt gtt tgt gtg ttc tat ggg acc ctc ttc agt gcc			768
Ser His Leu Cys Val Val Cys Val Phe Tyr Gly Thr Leu Phe Ser Ala			
	245	250	255
tac ctg tgt cct ccc tcc att gcc tct gaa gag aag gac att gca gca			816
Tyr Leu Cys Pro Pro Ser Ile Ala Ser Glu Glu Lys Asp Ile Ala Ala			
	260	265	270
gct gca atg tac acc ata gtg act ccc atg ttg aac ccc ttt atc tat			864
Ala Ala Met Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Phe Ile Tyr			
	275	280	285
agc cta agg aac aag gac atg aag ggg gcc cta aag agg ctc ttc agt			912
Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Lys Arg Leu Phe Ser			
	290	295	300
cac agg agt att gtt tcc tct tag			936
His Arg Ser Ile Val Ser Ser			
305	310		

&lt;210&gt; 100

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 100

Met Glu Asn Gln Ser Ser Ile Ser Glu Phe Phe Leu Arg Gly Ile Ser
1 5 10 15

Ala Pro Pro Glu Gln Gln Gln Ser Leu Phe Gly Ile Phe Leu Cys Met
20 25 30

Tyr Leu Val Thr Leu Thr Gly Asn Leu Leu Ile Ile Leu Ala Ile Gly  
 35 40 45

Ser Asp Leu His Leu His Thr Pro Met Tyr Phe Phe Leu Ala Asn Leu  
 50 55 60

Ser Phe Val Asp Met Gly Leu Thr Ser Ser Thr Val Thr Lys Met Leu  
 65 70 75 80

Val Asn Ile Gln Thr Arg His His Thr Ile Ser Tyr Thr Gly Cys Leu  
 85 90 95

Thr Gln Met Tyr Phe Phe Leu Met Phe Gly Asp Leu Asp Ser Phe Phe  
 100 105 110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu  
 115 120 125

Cys Tyr Ser Thr Val Met Arg Pro Gln Val Cys Ala Leu Met Leu Ala  
 130 135 140

Leu Cys Trp Val Leu Thr Asn Ile Val Ala Leu Thr His Thr Phe Leu  
 145 150 155 160

Met Ala Arg Leu Ser Phe Cys Val Thr Gly Glu Ile Ala His Phe Phe  
 165 170 175

Cys Asp Ile Thr Pro Val Leu Lys Leu Ser Cys Ser Asp Thr His Ile  
 180 185 190

Asn Glu Met Met Val Phe Val Leu Gly Gly Thr Val Leu Ile Val Pro  
 195 200 205

Phe Leu Cys Ile Val Thr Ser Tyr Ile His Ile Val Pro Ala Ile Leu  
 210 215 220

Arg Val Arg Thr Arg Gly Gly Val Gly Lys Ala Phe Ser Thr Cys Ser  
 225 230 235 240

Ser His Leu Cys Val Val Cys Val Phe Tyr Gly Thr Leu Phe Ser Ala  
 245 250 255

Tyr Leu Cys Pro Pro Ser Ile Ala Ser Glu Glu Lys Asp Ile Ala Ala  
 260 265 270

Ala Ala Met Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Phe Ile Tyr  
 275 280 285

Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Lys Arg Leu Phe Ser  
 290 295 300

His Arg Ser Ile Val Ser Ser  
 305 310

<210> 101  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (939)  
 <223>

<400> 101  
 atg aag agg gag aat cag agc agt gtg tct gag ttc ctc ctc ctg gac 48  
 Met Lys Arg Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Asp  
 1 5 10 15  
 ctc ccc atc tgg cca gag cag cag gct gtg ttc ttc acc ctg ttc ttg 96  
 Leu Pro Ile Trp Pro Glu Gln Gln Ala Val Phe Phe Thr Leu Phe Leu  
 20 25 30  
 ggc atg tac ctg atc acg gtg ctg ggg aac ctg ctc atc atc ctg ctc 144  
 Gly Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Leu  
 35 40 45  
 atc cgg ctg gac tct cac ctt cac acc ccc atg ttc ttc ttc ctc agc 192  
 Ile Arg Leu Asp Ser His Leu His Thr Pro Met Phe Phe Phe Leu Ser  
 50 55 60  
 cac ttg gct ctc act gac atc tcc ctt tca tct gtc act gtc cca aag 240  
 His Leu Ala Leu Thr Asp Ile Ser Leu Ser Ser Val Thr Val Pro Lys  
 65 70 75 80  
 atg tta tta agc atg caa act cag gat caa tcc att ctt tat gca ggg 288  
 Met Leu Leu Ser Met Gln Thr Gln Asp Gln Ser Ile Leu Tyr Ala Gly  
 85 90 95  
 tgt gta act cag atg tat ttt ttc ata ttt ttc act gat cta gac aat 336  
 Cys Val Thr Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Asn  
 100 105 110  
 ttc ctt ctc act tca atg gca tac gat cgg tat gtg gcc atc tgt cac 384  
 Phe Leu Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125  
 ccc ctc cgc tac acc act atc atg aaa gag gga ctg tgt aac tta cta 432  
 Pro Leu Arg Tyr Thr Thr Ile Met Lys Glu Gly Leu Cys Asn Leu Leu  
 130 135 140  
 gtc act gtg tcc tgg atc ctc tcc tgt acc aat gcc ctg tct cac act 480

Val	Thr	Val	Ser	Trp	Ile	Leu	Ser	Cys	Thr	Asn	Ala	Leu	Ser	His	Thr		
145					150					155					160		
ctc	ctc	ctg	gcc	cag	ctg	tcc	ttt	tgt	gct	gac	aac	acc	atc	ccc	cat		528
Leu	Leu	Leu	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Asp	Asn	Thr	Ile	Pro	His		
				165					170					175			
ttc	ttc	tgt	gat	ctt	gtt	gcc	cta	ctc	aag	ctc	tca	tgc	tca	gac	atc		576
Phe	Phe	Cys	Asp	Leu	Val	Ala	Leu	Leu	Lys	Leu	Ser	Cys	Ser	Asp	Ile		
			180					185					190				
tcc	ctc	aat	gag	ctg	gtc	att	ttc	aca	gtg	gga	cag	gca	gtc	att	act		624
Ser	Leu	Asn	Glu	Leu	Val	Ile	Phe	Thr	Val	Gly	Gln	Ala	Val	Ile	Thr		
		195				200						205					
cta	cca	cta	ata	tgc	atc	ttg	atc	tct	tat	ggc	cac	att	ggg	gtc	acc		672
Leu	Pro	Leu	Ile	Cys	Ile	Leu	Ile	Ser	Tyr	Gly	His	Ile	Gly	Val	Thr		
	210					215					220						
atc	ctc	aag	gct	cca	tct	act	aag	ggc	atc	ttc	aaa	gct	ttg	tcc	acc		720
Ile	Leu	Lys	Ala	Pro	Ser	Thr	Lys	Gly	Ile	Phe	Lys	Ala	Leu	Ser	Thr		
225					230				235					240			
tgt	ggc	tct	cac	ctc	tct	gtg	gtg	tct	ctg	tat	tat	ggc	aca	att	att		768
Cys	Gly	Ser	His	Leu	Ser	Val	Val	Ser	Leu	Tyr	Tyr	Gly	Thr	Ile	Ile		
				245					250					255			
gga	ctg	tat	ttt	ctc	ccc	tca	tcc	agt	gcc	tcc	agt	gac	aag	gac	gta		816
Gly	Leu	Tyr	Phe	Leu	Pro	Ser	Ser	Ser	Ala	Ser	Ser	Asp	Lys	Asp	Val		
			260				265						270				
att	gcc	tct	gtg	atg	tac	acg	gtg	atc	acc	cca	ttg	ctg	aat	ccc	ttc		864
Ile	Ala	Ser	Val	Met	Tyr	Thr	Val	Ile	Thr	Pro	Leu	Leu	Asn	Pro	Phe		
		275				280						285					
att	tat	agc	cta	agg	aac	agg	gac	ata	aag	gga	gcc	ctg	gag	aga	ctc		912
Ile	Tyr	Ser	Leu	Arg	Asn	Arg	Asp	Ile	Lys	Gly	Ala	Leu	Glu	Arg	Leu		
	290				295						300						
ttc	aac	agg	gca	aca	gtc	tta	tct	caa	tga								942
Phe	Asn	Arg	Ala	Thr	Val	Leu	Ser	Gln									
305					310												

<210> 102  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens  
  
 <400> 102

Met	Lys	Arg	Glu	Asn	Gln	Ser	Ser	Val	Ser	Glu	Phe	Leu	Leu	Leu	Asp		
1				5					10					15			
Leu	Pro	Ile	Trp	Pro	Glu	Gln	Gln	Ala	Val	Phe	Phe	Thr	Leu	Phe	Leu		
		20					25						30				
Gly	Met	Tyr	Leu	Ile	Thr	Val	Leu	Gly	Asn	Leu	Leu	Ile	Ile	Leu	Leu		
	35					40						45					

Ile Arg Leu Asp Ser His Leu His Thr Pro Met Phe Phe Phe Leu Ser  
 50 55 60

His Leu Ala Leu Thr Asp Ile Ser Leu Ser Ser Val Thr Val Pro Lys  
 65 70 75 80

Met Leu Leu Ser Met Gln Thr Gln Asp Gln Ser Ile Leu Tyr Ala Gly  
 85 90 95

Cys Val Thr Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Asn  
 100 105 110

Phe Leu Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Thr Thr Ile Met Lys Glu Gly Leu Cys Asn Leu Leu  
 130 135 140

Val Thr Val Ser Trp Ile Leu Ser Cys Thr Asn Ala Leu Ser His Thr  
 145 150 155 160

Leu Leu Leu Ala Gln Leu Ser Phe Cys Ala Asp Asn Thr Ile Pro His  
 165 170 175

Phe Phe Cys Asp Leu Val Ala Leu Leu Lys Leu Ser Cys Ser Asp Ile  
 180 185 190

Ser Leu Asn Glu Leu Val Ile Phe Thr Val Gly Gln Ala Val Ile Thr  
 195 200 205

Leu Pro Leu Ile Cys Ile Leu Ile Ser Tyr Gly His Ile Gly Val Thr  
 210 215 220

Ile Leu Lys Ala Pro Ser Thr Lys Gly Ile Phe Lys Ala Leu Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Ser Leu Tyr Tyr Gly Thr Ile Ile  
 245 250 255

Gly Leu Tyr Phe Leu Pro Ser Ser Ser Ala Ser Ser Asp Lys Asp Val  
 260 265 270

Ile Ala Ser Val Met Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Ile Lys Gly Ala Leu Glu Arg Leu  
 290 295 300

Phe Asn Arg Ala Thr Val Leu Ser Gln  
 305 310

<210> 103  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (927)  
 <223>

<400> 103  
 atg gaa aga atc aac cac acc agc agt gtc tcc gag ttt atc ctc ctg 48  
 Met Glu Arg Ile Asn His Thr Ser Ser Val Ser Glu Phe Ile Leu Leu  
 1 5 10 15  
 gga ctc tcc tcc cgg cct gag gac caa aag aca ctc ttt gtt ctc ttc 96  
 Gly Leu Ser Ser Arg Pro Glu Asp Gln Lys Thr Leu Phe Val Leu Phe  
 20 25 30  
 ctc atc gtg tac ctg gtc acc ata aca ggg aac ctg ctc atc atc ctg 144  
 Leu Ile Val Tyr Leu Val Thr Ile Thr Gly Asn Leu Leu Ile Ile Leu  
 35 40 45  
 gcc att cgc ttc aac ccc cat ctt cag acc cct atg tat ttc ttc ttg 192  
 Ala Ile Arg Phe Asn Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu  
 50 55 60  
 agt ttt ctg tct ctc act gat att tgc ttt aca aca agc gtt gtc ccc 240  
 Ser Phe Leu Ser Leu Thr Asp Ile Cys Phe Thr Thr Ser Val Val Pro  
 65 70 75 80  
 aag atg ctg atg aac ttc ctg tca gaa aag aag acc atc tcc tat gct 288  
 Lys Met Leu Met Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala  
 85 90 95  
 ggg tgt ctg aca cag atg tat ttt ctc tat gcc ttg ggc aac agt gac 336  
 Gly Cys Leu Thr Gln Met Tyr Phe Leu Tyr Ala Leu Gly Asn Ser Asp  
 100 105 110  
 agc tgc ctt ctg gca gtc atg gcc ttt gac cgc tat gtg gcc gtc tgt 384  
 Ser Cys Leu Leu Ala Val Met Ala Phe Asp Arg Tyr Val Ala Val Cys  
 115 120 125  
 gac cct ttc cac tat gtc acc acc atg agc cac cac cac tgt gtc ctg 432  
 Asp Pro Phe His Tyr Val Thr Thr Met Ser His His His Cys Val Leu  
 130 135 140  
 ctg gtg gcc ttc tcc tgc tca ttt cct cac ctc cac tca ctc ctg cac 480  
 Leu Val Ala Phe Ser Cys Ser Phe Pro His Leu His Ser Leu Leu His  
 145 150 155 160

aca ctt ctg ctg aat cgt ctc acc ttc tgt gac tcc aat gtt atc cac 528  
 Thr Leu Leu Leu Asn Arg Leu Thr Phe Cys Asp Ser Asn Val Ile His  
 165 170 175  
 cac ttt ctc tgt gac ctc agc cct gtg ctg aaa ttg tcc tgc tct tcc 576  
 His Phe Leu Cys Asp Leu Ser Pro Val Leu Lys Leu Ser Cys Ser Ser  
 180 185 190  
 ata ttt gtc aat gaa att gtg cag atg aca gaa gca cct att gtt ttg 624  
 Ile Phe Val Asn Glu Ile Val Gln Met Thr Glu Ala Pro Ile Val Leu  
 195 200 205  
 gtg act cgt ttt ctc tgc att gct ttc tct tat ata cga atc ctc act 672  
 Val Thr Arg Phe Leu Cys Ile Ala Phe Ser Tyr Ile Arg Ile Leu Thr  
 210 215 220  
 aca gtt ctc aag att ccc tct act tct ggg aaa cgc aaa gcc ttc tcc 720  
 Thr Val Leu Lys Ile Pro Ser Thr Ser Gly Lys Arg Lys Ala Phe Ser  
 225 230 235 240  
 acc tgt ggt ttt tac ctc acc gtg gtg acg ctc ttt tat gga agc atc 768  
 Thr Cys Gly Phe Tyr Leu Thr Val Val Thr Leu Phe Tyr Gly Ser Ile  
 245 250 255  
 ttc tgt gtc tat tta cag ccc cca tcc acc tac gct gtc aag gac cac 816  
 Phe Cys Val Tyr Leu Gln Pro Pro Ser Thr Tyr Ala Val Lys Asp His  
 260 265 270  
 gtg gca aca att gtt tac aca gtt ttg tca tcc atg ctc aat cct ttt 864  
 Val Ala Thr Ile Val Tyr Thr Val Leu Ser Ser Met Leu Asn Pro Phe  
 275 280 285  
 atc tac agc ctg aga aac aaa gac ctg aaa cag ggc ctg agg aag ctt 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Leu Lys Gln Gly Leu Arg Lys Leu  
 290 295 300  
 atg agc aag aga tcc tag 930  
 Met Ser Lys Arg Ser  
 305

<210> 104  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 104

Met Glu Arg Ile Asn His Thr Ser Ser Val Ser Glu Phe Ile Leu Leu  
1 5 10 15

Gly Leu Ser Ser Arg Pro Glu Asp Gln Lys Thr Leu Phe Val Leu Phe  
20 25 30

Leu Ile Val Tyr Leu Val Thr Ile Thr Gly Asn Leu Leu Ile Ile Leu  
35 40 45

Ala Ile Arg Phe Asn Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu



50	55	60
Ser Phe Leu Ser Leu Thr Asp Ile Cys Phe Thr Thr Ser Val Val Pro		
65	70	75 80
Lys Met Leu Met Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala		
	85	90 95
Gly Cys Leu Thr Gln Met Tyr Phe Leu Tyr Ala Leu Gly Asn Ser Asp		
	100	105 110
Ser Cys Leu Leu Ala Val Met Ala Phe Asp Arg Tyr Val Ala Val Cys		
	115	120 125
Asp Pro Phe His Tyr Val Thr Thr Met Ser His His His Cys Val Leu		
	130	135 140
Leu Val Ala Phe Ser Cys Ser Phe Pro His Leu His Ser Leu Leu His		
	145	150 155 160
Thr Leu Leu Leu Asn Arg Leu Thr Phe Cys Asp Ser Asn Val Ile His		
	165	170 175
His Phe Leu Cys Asp Leu Ser Pro Val Leu Lys Leu Ser Cys Ser Ser		
	180	185 190
Ile Phe Val Asn Glu Ile Val Gln Met Thr Glu Ala Pro Ile Val Leu		
	195	200 205
Val Thr Arg Phe Leu Cys Ile Ala Phe Ser Tyr Ile Arg Ile Leu Thr		
	210	215 220
Thr Val Leu Lys Ile Pro Ser Thr Ser Gly Lys Arg Lys Ala Phe Ser		
	225	230 235 240
Thr Cys Gly Phe Tyr Leu Thr Val Val Thr Leu Phe Tyr Gly Ser Ile		
	245	250 255
Phe Cys Val Tyr Leu Gln Pro Pro Ser Thr Tyr Ala Val Lys Asp His		
	260	265 270
Val Ala Thr Ile Val Tyr Thr Val Leu Ser Ser Met Leu Asn Pro Phe		
	275	280 285
Ile Tyr Ser Leu Arg Asn Lys Asp Leu Lys Gln Gly Leu Arg Lys Leu		
	290	295 300

Met Ser Lys Arg Ser  
305

<210> 105  
<211> 930  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (927)  
<223>

<400> 105  
atg gct gca gga aat cac tct aca gtg aca gag ttc att ctc aag ggt 48  
Met Ala Ala Gly Asn His Ser Thr Val Thr Glu Phe Ile Leu Lys Gly  
1 5 10 15  
tta acg aag aga gca gac ctc cag ctc ccc ctc ttt ctc ctc ttc ctc 96  
Leu Thr Lys Arg Ala Asp Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
20 25 30  
ggg atc tac ttg gtc acc atc gtg ggg aac ctg ggc atg atc act cta 144  
Gly Ile Tyr Leu Val Thr Ile Val Gly Asn Leu Gly Met Ile Thr Leu  
35 40 45  
att tgt ctg aac tct cag ctg cac acc ccc atg tac tac ttt ctc agc 192  
Ile Cys Leu Asn Ser Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
50 55 60  
aat ctg tca ctc atg gat ctc tgc tac tcc tcc gtc att acc cct aag 240  
Asn Leu Ser Leu Met Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys  
65 70 75 80  
atg ctg gtg aac ttt gtg tca gag aaa aac atc atc tcc tac gca ggg 288  
Met Leu Val Asn Phe Val Ser Glu Lys Asn Ile Ile Ser Tyr Ala Gly  
85 90 95  
tgc atg tca cag ctc tac ttc ttc ctt gtt ttt gtc att gct gag tgt 336  
Cys Met Ser Gln Leu Tyr Phe Phe Leu Val Phe Val Ile Ala Glu Cys  
100 105 110  
tac atg ctg aca gtg atg gcc tac gac cgc tat gtt gcc atc tgc cac 384  
Tyr Met Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
115 120 125  
cct ttg ctt tac aac atc att atg tct cat cac acc tgc ctg ctg ctg 432  
Pro Leu Leu Tyr Asn Ile Ile Met Ser His His Thr Cys Leu Leu Leu  
130 135 140  
gtg gct gtg gtc tac gcc atc gga ctc att ggc tcc aca ata gaa act 480  
Val Ala Val Val Tyr Ala Ile Gly Leu Ile Gly Ser Thr Ile Glu Thr  
145 150 155 160  
ggc ctc atg tta aaa ctg ccc tat tgt gag cac ctc atc agt cac tac 528  
Gly Leu Met Leu Lys Leu Pro Tyr Cys Glu His Leu Ile Ser His Tyr  
165 170 175

ttc tgt gac atc ctc cct ctc atg aag ctg tcc tgc tct agc acc tat 576  
 Phe Cys Asp Ile Leu Pro Leu Met Lys Leu Ser Cys Ser Ser Thr Tyr  
 180 185 190  
 gat gtt gag atg aca gtc ttc ttt tgc gct gga ttc aac atc ata gtc 624  
 Asp Val Glu Met Thr Val Phe Phe Ser Ala Gly Phe Asn Ile Ile Val  
 195 200 205  
 acg agc tta aca gtt ctt gtt tct tac acc ttc att ctc tcc agc atc 672  
 Thr Ser Leu Thr Val Leu Val Ser Tyr Thr Phe Ile Leu Ser Ser Ile  
 210 215 220  
 ctc ggc atc agc acc aca gag ggg aga tcc aaa gcc ttc agc acc tgc 720  
 Leu Gly Ile Ser Thr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 agc tcc cac ctt gca gcc gtg gga atg ttc tat gga tca act gca ttc 768  
 Ser Ser His Leu Ala Ala Val Gly Met Phe Tyr Gly Ser Thr Ala Phe  
 245 250 255  
 atg tac tta aaa ccc tcc aca atc agt tcc ttg acc cag gag aat gtg 816  
 Met Tyr Leu Lys Pro Ser Thr Ile Ser Ser Leu Thr Gln Glu Asn Val  
 260 265 270  
 gcc tct gtg ttc tac acc acg gta atc ccc atg ttg aat ccc cta atc 864  
 Ala Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285  
 tac agc ctg agg aac aag gaa gta aag gct gcc gtg cag aaa acg ctg 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Ala Ala Val Gln Lys Thr Leu  
 290 295 300  
 agg ggt aaa ctg ttt tga 930  
 Arg Gly Lys Leu Phe  
 305

<210> 106  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 106

Met Ala Ala Gly Asn His Ser Thr Val Thr Glu Phe Ile Leu Lys Gly  
 1 5 10 15  
 Leu Thr Lys Arg Ala Asp Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
 20 25 30  
 Gly Ile Tyr Leu Val Thr Ile Val Gly Asn Leu Gly Met Ile Thr Leu  
 35 40 45  
 Ile Cys Leu Asn Ser Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60

Asn Leu Ser Leu Met Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys  
65 70 75 80

Met Leu Val Asn Phe Val Ser Glu Lys Asn Ile Ile Ser Tyr Ala Gly  
85 90 95

Cys Met Ser Gln Leu Tyr Phe Phe Leu Val Phe Val Ile Ala Glu Cys  
100 105 110

Tyr Met Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
115 120 125

Pro Leu Leu Tyr Asn Ile Ile Met Ser His His Thr Cys Leu Leu Leu  
130 135 140

Val Ala Val Val Tyr Ala Ile Gly Leu Ile Gly Ser Thr Ile Glu Thr  
145 150 155 160

Gly Leu Met Leu Lys Leu Pro Tyr Cys Glu His Leu Ile Ser His Tyr  
165 170 175

Phe Cys Asp Ile Leu Pro Leu Met Lys Leu Ser Cys Ser Ser Thr Tyr  
180 185 190

Asp Val Glu Met Thr Val Phe Phe Ser Ala Gly Phe Asn Ile Ile Val  
195 200 205

Thr Ser Leu Thr Val Leu Val Ser Tyr Thr Phe Ile Leu Ser Ser Ile  
210 215 220

Leu Gly Ile Ser Thr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
225 230 235 240

Ser Ser His Leu Ala Ala Val Gly Met Phe Tyr Gly Ser Thr Ala Phe  
245 250 255

Met Tyr Leu Lys Pro Ser Thr Ile Ser Ser Leu Thr Gln Glu Asn Val  
260 265 270

Ala Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Ala Ala Val Gln Lys Thr Leu  
290 295 300

Arg Gly Lys Leu Phe

305

<210> 107  
 <211> 963  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(960)  
 <223>

<400> 107  
 atg agt tcc tgc aac ttc aca cat gcc acc tgt gtg ctt att ggt atc 48  
 Met Ser Ser Cys Asn Phe Thr His Ala Thr Cys Val Leu Ile Gly Ile  
 1 5 10 15  
 cca gga tta gag aaa gcc cat ttc tgg gtt ggc ttc ccc ctc ctt tcc 96  
 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser  
 20 25 30  
 atg tat gta gtg gca atg tgt gga aac tgc atc gtg gtc ttc atc gta 144  
 Met Tyr Val Val Ala Met Cys Gly Asn Cys Ile Val Val Phe Ile Val  
 35 40 45  
 agg acg gaa cgc agc ctg cac gct ccg atg tac ctc ttt ctc tgc atg 192  
 Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met  
 50 55 60  
 ctt gca gcc att gac ctg gcc tta tcc aca tcc acc atg cct aag atc 240  
 Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile  
 65 70 75 80  
 ctt gcc ctt ttc tgg ttt gat tcc cga gag att agc att gag gcc tgt 288  
 Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Ile Glu Ala Cys  
 85 90 95  
 ctt acc cag atg ttc ttt att cat gcc ctc tca gcc att gaa tcc acc 336  
 Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr  
 100 105 110  
 atc ctg ctg gcc atg gcc ttt gac cgt tat gtg gcc atc tgc cac cca 384  
 Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro  
 115 120 125  
 ctg cgc cat gct gca gtg ctc aac aat aca gta aca gcc cag att ggc 432  
 Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly  
 130 135 140  
 atc gtg gct gtg gtc cgc gga tcc ctc ttt ttt ttc cca ctg cct ctg 480  
 Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu  
 145 150 155 160  
 ctg atc aag cgg ctg gcc ttc tgc cac tcc aat gtc ctc tcg cac tcc 528  
 Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser  
 165 170 175  
 tat tgt gtc cac cag gat gta atg aag ttg gcc tat gca gac act ttg 576  
 Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu

180	185	190	
ccc aat gtg gta tat ggt ctt act gcc att ctg ctg gtc atg ggc gtg			624
Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val			
195	200	205	
gac gta atg ttc atc tcc ttg tcc tat ttt ctg ata ata cga acg gtt			672
Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val			
210	215	220	
ctg caa ctg cct tcc aag tca gag cgg gcc aag gcc ttt gga acc tgt			720
Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys			
225	230	235	240
gtg tca cac att ggt gtg gta ctc gcc ttc tat gtg cca ctt att ggc			768
Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly			
245	250	255	
ctc tca gtt gta cac cgc ttt gga aac agc ctt cat ccc att gtg cgt			816
Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg			
260	265	270	
gtt gtc atg ggt gac atc tac ctg ctg ctg cct cct gtc atc aat ccc			864
Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro			
275	280	285	
atc atc tat ggt gcc aaa acc aaa cag atc aga aca cgg gtg ctg gct			912
Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala			
290	295	300	
atg ttc aag atc agc tgt gac aag gac ttg cag gct gtg gga ggc aag			960
Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys			
305	310	315	320
tga			963

<210> 108  
 <211> 320  
 <212> PRT  
 <213> Homo Sapiens

<400> 108

Met Ser Ser Cys Asn Phe Thr His Ala Thr Cys Val Leu Ile Gly Ile
1 5 10 15

Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser
20 25 30

Met Tyr Val Val Ala Met Cys Gly Asn Cys Ile Val Val Phe Ile Val
35 40 45

Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met
50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile

65	70	75	80
Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Ile Glu Ala Cys	85	90	95
Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr	100	105	110
Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro	115	120	125
Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly	130	135	140
Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu	145	150	155
Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser	165	170	175
Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu	180	185	190
Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val	195	200	205
Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val	210	215	220
Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys	225	230	235
Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly	245	250	255
Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg	260	265	270
Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro	275	280	285
Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala	290	295	300
Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys	305	310	315
			320

<210> 109  
 <211> 933  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(930)  
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<400> 109  
 atg gca gcc aaa aac tct tct gtg aca gag ttt atc ctc gaa ggc tta 48  
 Met Ala Ala Lys Asn Ser Ser Val Thr Glu Phe Ile Leu Glu Gly Leu  
 1 5 10 15  
 acc cac cag ccg gga ctg cgg atc ccc ctc ttc ttc ctg ttt ctg ggt 96  
 Thr His Gln Pro Gly Leu Arg Ile Pro Leu Phe Phe Leu Phe Leu Gly  
 20 25 30  
 ttc tac acg gtc acc gtg gtg ggg aac ctg ggc ttg ata acc ctg att 144  
 Phe Tyr Thr Val Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu Ile  
 35 40 45  
 ggg ctg aac tct cac ctg cac act ccc atg tac ttc ttc ctt ttt aac 192  
 Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe Asn  
 50 55 60  
 ctc tct tta ata gat ttc tgt ttc tcc act acc atc act ccc aaa atg 240  
 Leu Ser Leu Ile Asp Phe Cys Phe Ser Thr Thr Ile Thr Pro Lys Met  
 65 70 75 80  
 ctg atg agt ttt gtc tca agg aag aac atc att tcc ttc aca ggg tgt 288  
 Leu Met Ser Phe Val Ser Arg Lys Asn Ile Ile Ser Phe Thr Gly Cys  
 85 90 95  
 atg act cag ctc ttc ttc ttc tgc ttc ttt gtc gtc tct gag tcc ttc 336  
 Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Val Ser Glu Ser Phe  
 100 105 110  
 atc ctg tca gcg atg gcg tat gac cgc tac gtg gcc atc tgt aac cca 384  
 Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro  
 115 120 125  
 ctg ttg tac aca gtc acc atg tct tgc cag gtg tgt ttg ctc ctt ttg 432  
 Leu Leu Tyr Thr Val Thr Met Ser Cys Gln Val Cys Leu Leu Leu Leu  
 130 135 140  
 ttg ggt gcc tat ggg atg ggg ttt gct ggg gcc atg gcc cac aca gga 480  
 Leu Gly Ala Tyr Gly Met Gly Phe Ala Gly Ala Met Ala His Thr Gly  
 145 150 155 160  
 agc ata atg aac ctg acc ttc tgt gct gac aac ctt gtc aat cat ttc 528  
 Ser Ile Met Asn Leu Thr Phe Cys Ala Asp Asn Leu Val Asn His Phe  
 165 170 175  
 atg tgt gac atc ctt cct ctc ctt gag ctc tcc tgc aac agc tct tac 576  
 Met Cys Asp Ile Leu Pro Leu Leu Glu Leu Ser Cys Asn Ser Ser Tyr  
 180 185 190



atg aat gag ctg gtg gtc ttt att gtg gtg gct gtt gac gtt gga atg 624  
 Met Asn Glu Leu Val Val Phe Ile Val Val Ala Val Asp Val Gly Met  
 195 200 205  
 ccc att gtc act gtc ttt att tct tat gcc ctc atc ctc tcc agc att 672  
 Pro Ile Val Thr Val Phe Ile Ser Tyr Ala Leu Ile Leu Ser Ser Ile  
 210 215 220  
 cta cac aac agt tct aca gaa ggc agg tcc aaa gcc ttt agt act tgc 720  
 Leu His Asn Ser Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 agt tcc cac ata att gta gtt tct ctt ttc ttt ggt tct ggt gct ttc 768  
 Ser Ser His Ile Ile Val Val Ser Leu Phe Phe Gly Ser Gly Ala Phe  
 245 250 255  
 atg tat ctc aaa ccc ctt tcc atc ctg ccc ctc gag caa ggg aaa gtg 816  
 Met Tyr Leu Lys Pro Leu Ser Ile Leu Pro Leu Glu Gln Gly Lys Val  
 260 265 270  
 tcc tcc ctg ttc tat acc ata ata gtc ccc gtg tta aac cca tta atc 864  
 Ser Ser Leu Phe Tyr Thr Ile Ile Val Pro Val Leu Asn Pro Leu Ile  
 275 280 285  
 tat agc ttg agg aac aag gat gtc aaa gtt gcc ctg agg aga act ttg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Arg Thr Leu  
 290 295 300  
 ggc aga aaa atc ttt tct taa 933  
 Gly Arg Lys Ile Phe Ser  
 305 310

<210> 110  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 110

Met Ala Ala Lys Asn Ser Ser Val Thr Glu Phe Ile Leu Glu Gly Leu  
 1 5 10 15

Thr His Gln Pro Gly Leu Arg Ile Pro Leu Phe Phe Leu Phe Leu Gly  
 20 25 30

Phe Tyr Thr Val Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu Ile  
 35 40 45

Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe Asn  
 50 55 60

Leu Ser Leu Ile Asp Phe Cys Phe Ser Thr Thr Ile Thr Pro Lys Met  
 65 70 75 80

Leu Met Ser Phe Val Ser Arg Lys Asn Ile Ile Ser Phe Thr Gly Cys  
                             85                            90                            95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Val Ser Glu Ser Phe  
                             100                            105                            110

Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro  
                             115                            120                            125

Leu Leu Tyr Thr Val Thr Met Ser Cys Gln Val Cys Leu Leu Leu Leu  
                             130                            135                            140

Leu Gly Ala Tyr Gly Met Gly Phe Ala Gly Ala Met Ala His Thr Gly  
                             145                            150                            155                            160

Ser Ile Met Asn Leu Thr Phe Cys Ala Asp Asn Leu Val Asn His Phe  
                             165                            170                            175

Met Cys Asp Ile Leu Pro Leu Leu Glu Leu Ser Cys Asn Ser Ser Tyr  
                             180                            185                            190

Met Asn Glu Leu Val Val Phe Ile Val Val Ala Val Asp Val Gly Met  
                             195                            200                            205

Pro Ile Val Thr Val Phe Ile Ser Tyr Ala Leu Ile Leu Ser Ser Ile  
                             210                            215                            220

Leu His Asn Ser Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
                             225                            230                            235                            240

Ser Ser His Ile Ile Val Val Ser Leu Phe Phe Gly Ser Gly Ala Phe  
                             245                            250                            255

Met Tyr Leu Lys Pro Leu Ser Ile Leu Pro Leu Glu Gln Gly Lys Val  
                             260                            265                            270

Ser Ser Leu Phe Tyr Thr Ile Ile Val Pro Val Leu Asn Pro Leu Ile  
                             275                            280                            285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Arg Thr Leu  
                             290                            295                            300

Gly Arg Lys Ile Phe Ser  
                             305                            310

<210> 111

<211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(948)  
 <223>

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<400> 111
atg cct taa atg aca atg gct gct gag aat tcc tcc ttc gtg aca cag      48
Met Pro      Met Thr Met Ala Ala Glu Asn Ser Ser Phe Val Thr Gln
1              5              10              15

ttt atc ctc gca ggc tta act gac caa ccg gga gtc cag atc ccc ctc      96
Phe Ile Leu Ala Gly Leu Thr Asp Gln Pro Gly Val Gln Ile Pro Leu
                20              25              30

ttc ttc ctg ttt cta ggc ttc tac gtg gtc act gtg gtg ggg aac ctg      144
Phe Phe Leu Phe Leu Gly Phe Tyr Val Val Thr Val Val Gly Asn Leu
                35              40              45

ggc ttg ata acc ctg ata agg ctc aac tct cac ttg cac acc cct atg      192
Gly Leu Ile Thr Leu Ile Arg Leu Asn Ser His Leu His Thr Pro Met
                50              55              60

tac ttc ttc ctc tat aac ttg tcc ttc ata gat ttc tgc tat tcc agt      240
Tyr Phe Phe Leu Tyr Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Ser
                65              70              75

gtt atc act ccc aaa atg ctg atg agc ttt gtc tta aag aag aac agc      288
Val Ile Thr Pro Lys Met Leu Met Ser Phe Val Leu Lys Lys Asn Ser
80              85              90              95

atc tcc tac gca ggg tgt atg act cag ctc ttc ttc ttt ctt ttc ttt      336
Ile Ser Tyr Ala Gly Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe
                100              105              110

gtt gtc tct gag tcc ttc atc ctg tca gca atg gcg tat gac cgc tat      384
Val Val Ser Glu Ser Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr
                115              120              125

gtg gcc atc tgt aac cca ctg ttg tac atg gtc acc atg tct ccc cag      432
Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Thr Met Ser Pro Gln
                130              135              140

gtg tgt ttt ctc ctt ttg ttg ggt gtc tat ggg atg ggg ttt gct ggg      480
Val Cys Phe Leu Leu Leu Leu Gly Val Tyr Gly Met Gly Phe Ala Gly
                145              150              155

gcc atg gcc cac aca gcg tgc atg atg ggt gtg acc ttc tgt gcc aat      528
Ala Met Ala His Thr Ala Cys Met Met Gly Val Thr Phe Cys Ala Asn
160              165              170              175

aac ctt gtc aac cac tac atg tgt gac atc ctt ccc ctt ctt gag tgt      576
Asn Leu Val Asn His Tyr Met Cys Asp Ile Leu Pro Leu Leu Glu Cys
                180              185              190

gct tgc acc agc acc tat gtg aat gag ctt gta gtg ttt gtt gtt gtg      624
Ala Cys Thr Ser Thr Tyr Val Asn Glu Leu Val Val Phe Val Val Val

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195	200	205	
ggc att gat att ggt gtg ccc	aca gtc acc atc ttc	att tcc tat gct	672
Gly Ile Asp Ile Gly Val Pro	Thr Val Thr Ile Phe	Ile Ser Tyr Ala	
210	215	220	
ctc att ctc tcc agc atc ttc	cac att gat tcc acg gag	ggc agg tcc	720
Leu Ile Leu Ser Ser Ile Phe	His Ile Asp Ser Thr Glu	Gly Arg Ser	
225	230	235	
aaa gcc ttc agc acc tgc agc	tcc cac ata att gca gtt	tct ctg ttc	768
Lys Ala Phe Ser Thr Cys Ser	Ser Ser His Ile Ile Ala	Val Ser Leu Phe	
240	245	250 255	
ttt ggg tca gga gca ttc atg	tac ctc aaa ccc ttt tct	ctt tta gct	816
Phe Gly Ser Gly Ala Phe Met	Tyr Leu Lys Pro Phe Ser	Leu Leu Ala	
260	265	270	
atg aac cag ggc aag gtg tct	tcc cta ttc tat acc act	gtg gtg ccc	864
Met Asn Gln Gly Lys Val Ser	Ser Leu Phe Tyr Thr Thr	Val Val Pro	
275	280	285	
atg ctc aac cca tta att tat	agc ctg agg aat aag gac	gtc aaa gtt	912
Met Leu Asn Pro Leu Ile Tyr	Ser Leu Arg Asn Lys Asp	Val Lys Val	
290	295	300	
gct cta aag aaa atc ttg aac	aaa aat gca ttc tcc tga		951
Ala Leu Lys Lys Ile Leu Asn	Lys Asn Ala Phe Ser		
305	310	315	

&lt;210&gt; 112

&lt;211&gt; 313

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 112

Met Thr Met	Ala Ala Glu	Asn Ser Ser	Phe Val Thr	Gln Phe Ile Leu
1	5		10	15

Ala Gly Leu	Thr Asp Gln	Pro Gly Val	Gln Ile Pro	Leu Phe Phe Leu
20		25		30

Phe Leu Gly	Phe Tyr Val	Val Thr Val	Val Gly Asn	Leu Gly Leu Ile
35		40		45

Thr Leu Ile	Arg Leu Asn	Ser His Leu	His Thr Pro	Met Tyr Phe Phe
50		55		60

Leu Tyr Asn	Leu Ser Phe	Ile Asp Phe	Cys Tyr Ser	Ser Val Ile Thr
65		70		80

Pro Lys Met	Leu Met Ser	Phe Val Leu	Lys Lys Asn	Ser Ile Ser Tyr
85			90	95

Ala Gly Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Val Ser  
 100 105 110

Glu Ser Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Leu Tyr Met Val Thr Met Ser Pro Gln Val Cys Phe  
 130 135 140

Leu Leu Leu Leu Gly Val Tyr Gly Met Gly Phe Ala Gly Ala Met Ala  
 145 150 155 160

His Thr Ala Cys Met Met Gly Val Thr Phe Cys Ala Asn Asn Leu Val  
 165 170 175

Asn His Tyr Met Cys Asp Ile Leu Pro Leu Leu Glu Cys Ala Cys Thr  
 180 185 190

Ser Thr Tyr Val Asn Glu Leu Val Val Phe Val Val Val Gly Ile Asp  
 195 200 205

Ile Gly Val Pro Thr Val Thr Ile Phe Ile Ser Tyr Ala Leu Ile Leu  
 210 215 220

Ser Ser Ile Phe His Ile Asp Ser Thr Glu Gly Arg Ser Lys Ala Phe  
 225 230 235 240

Ser Thr Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser  
 245 250 255

Gly Ala Phe Met Tyr Leu Lys Pro Phe Ser Leu Leu Ala Met Asn Gln  
 260 265 270

Gly Lys Val Ser Ser Leu Phe Tyr Thr Thr Val Val Pro Met Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Lys  
 290 295 300

Lys Ile Leu Asn Lys Asn Ala Phe Ser  
 305 310

<210> 113  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(942)

&lt;223&gt;

&lt;400&gt; 113

atg	gaa	aaa	aga	aat	cta	aca	gtt	gtc	agg	gaa	ttc	gtc	ctt	ctg	gga	48
Met	Glu	Lys	Arg	Asn	Leu	Thr	Val	Val	Arg	Glu	Phe	Val	Leu	Leu	Gly	
1				5				10					15			

ctt	cct	agc	tca	gca	gag	cag	cag	cac	ctc	ctg	tct	gtg	ctc	ttt	ctc	96
Leu	Pro	Ser	Ser	Ala	Glu	Gln	Gln	His	Leu	Leu	Ser	Val	Leu	Phe	Leu	
			20				25						30			

tgt	atg	tat	tta	gcc	acc	acc	ttg	ggg	aac	atg	ctc	atc	att	gcg	acg	144
Cys	Met	Tyr	Leu	Ala	Thr	Thr	Leu	Gly	Asn	Met	Leu	Ile	Ile	Ala	Thr	
		35					40					45				

att	ggc	ttt	gac	tct	cac	ctc	cat	tcc	cct	atg	tac	ttc	ttc	ctt	agt	192
Ile	Gly	Phe	Asp	Ser	His	Leu	His	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ser	
	50					55					60					

aac	ttg	gcc	ttt	gtt	gac	atc	tgc	ttt	acg	tcg	act	aca	gtc	ccc	caa	240
Asn	Leu	Ala	Phe	Val	Asp	Ile	Cys	Phe	Thr	Ser	Thr	Thr	Val	Pro	Gln	
65					70				75					80		

atg	gta	gtg	aat	atc	ttg	act	ggc	acc	aag	act	atc	tct	ttt	gca	ggc	288
Met	Val	Val	Asn	Ile	Leu	Thr	Gly	Thr	Lys	Thr	Ile	Ser	Phe	Ala	Gly	
			85						90					95		

tgc	ctc	acc	cag	ctc	ttc	ttc	ttc	gtt	tct	ttt	gtg	aat	atg	gac	agc	336
Cys	Leu	Thr	Gln	Leu	Phe	Phe	Phe	Val	Ser	Phe	Val	Asn	Met	Asp	Ser	
			100					105					110			

ctc	ctt	ctg	tgt	gtg	atg	gcg	tat	gat	aga	tat	gtg	gcg	att	tgc	cac	384
Leu	Leu	Leu	Cys	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	
		115					120					125				

ccc	tta	cat	tac	acc	gcc	aga	atg	aac	ctg	tgc	ctt	tgt	gtc	cag	cta	432
Pro	Leu	His	Tyr	Thr	Ala	Arg	Met	Asn	Leu	Cys	Leu	Cys	Val	Gln	Leu	
	130					135						140				

gtg	gct	gga	ctg	tgg	ctt	gtt	act	tac	ctc	cac	gcc	ctc	ctg	cat	act	480
Val	Ala	Gly	Leu	Trp	Leu	Val	Thr	Tyr	Leu	His	Ala	Leu	Leu	His	Thr	
145				150						155				160		

gtc	cta	ata	gca	cag	ctg	tcc	ttc	tgt	gcc	tcc	aat	atc	atc	cat	cat	528
Val	Leu	Ile	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Ser	Asn	Ile	Ile	His	His	
			165						170					175		

ttc	ttc	tgt	gat	ctc	aat	cct	ctc	ctg	cag	ctc	tct	tgc	tct	gac	gtc	576
Phe	Phe	Cys	Asp	Leu	Asn	Pro	Leu	Leu	Gln	Leu	Ser	Cys	Ser	Asp	Val	
			180					185					190			

tcc	ttc	aat	gta	atg	atc	att	ttt	gca	gta	gga	ggg	cta	ttg	gct	ctc	624
Ser	Phe	Asn	Val	Met	Ile	Ile	Phe	Ala	Val	Gly	Gly	Leu	Leu	Ala	Leu	
		195					200					205				

acg	ccc	ctt	gtc	tgt	atc	ctc	gta	tct	tat	gga	ctt	atc	ttc	tcc	act	672
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Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr  
 210 215 220  
 gtt ctg aag atc acc tct act cag ggc aag cag aga gct gtt tcc acc 720  
 Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr  
 225 230 235 240  
 tgc agc tgc cac ctg tca gtg gtg gtg ttg ttt tac ggc aca gcc atc 768  
 Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile  
 245 250 255  
 gcc gtc tat ttc agc cct tca tcc ccc cat atg cct gag agc gac act 816  
 Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr  
 260 265 270  
 ctg tca acc atc atg tat tca atg gtg gct ccg atg ctg aat cct ttc 864  
 Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe  
 275 280 285  
 atc tat acc cta agg aac agg gat atg aag agg gga ctt cag aaa atg 912  
 Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met  
 290 295 300  
 ctt ctc aag tgc aca gtc ttt cag cag caa taa 945  
 Leu Leu Lys Cys Thr Val Phe Gln Gln Gln  
 305 310

<210> 114  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 114

Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly  
 1 5 10 15

Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu  
 20 25 30

Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr  
 35 40 45

Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln  
 65 70 75 80

Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly  
 85 90 95

Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser  
 100 105 110

Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu  
 130 135 140

Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr  
 145 150 155 160

Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His  
 165 170 175

Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val  
 180 185 190

Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly Leu Leu Ala Leu  
 195 200 205

Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr  
 210 215 220

Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr  
 225 230 235 240

Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile  
 245 250 255

Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr  
 260 265 270

Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe  
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met  
 290 295 300

Leu Leu Lys Cys Thr Val Phe Gln Gln Gln  
 305 310

<210> 115  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS



&lt;222&gt; (1) .. (927)

&lt;223&gt;

&lt;400&gt; 115

atg gca aat ctc aca atc gtg act gaa ttt atc ctt atg ggg ttt tct	48
Met Ala Asn Leu Thr Ile Val Thr Glu Phe Ile Leu Met Gly Phe Ser	
1 5 10 15	
acc aat aaa aat atg tgc att ttg cat tcg att ctc ttc ttg ttg att	96
Thr Asn Lys Asn Met Cys Ile Leu His Ser Ile Leu Phe Leu Leu Ile	
20 25 30	
tat ttg tgt gcc ctg atg ggg aat gtc ctc att atc atg atc aca act	144
Tyr Leu Cys Ala Leu Met Gly Asn Val Leu Ile Ile Met Ile Thr Thr	
35 40 45	
ttg gac cat cat ctc cac acc ccc gtg tat ttc ttc ttg aag aat cta	192
Leu Asp His His Leu His Thr Pro Val Tyr Phe Phe Leu Lys Asn Leu	
50 55 60	
tct ttc ttg gat ctc tgc ctt att tca gtc acg gct ccc aaa tct atc	240
Ser Phe Leu Asp Leu Cys Leu Ile Ser Val Thr Ala Pro Lys Ser Ile	
65 70 75 80	
gcc aat tct ttg ata cac aac aac tcc att tca ttc ctt ggc tgt gtt	288
Ala Asn Ser Leu Ile His Asn Asn Ser Ile Ser Phe Leu Gly Cys Val	
85 90 95	
tcc cag gtc ttt ttg ttg ctt tct tca gca tct gca gag ctg ctc ctc	336
Ser Gln Val Phe Leu Leu Leu Ser Ser Ala Ser Ala Glu Leu Leu Leu	
100 105 110	
ctc acg gtg atg tcc ttt gac cgc tat act gct ata tgt cac cct ctg	384
Leu Thr Val Met Ser Phe Asp Arg Tyr Thr Ala Ile Cys His Pro Leu	
115 120 125	
cac tat gat gtc atc atg gac agg agc acc tgt gtc caa aga gcc act	432
His Tyr Asp Val Ile Met Asp Arg Ser Thr Cys Val Gln Arg Ala Thr	
130 135 140	
gtg tct tgg ctg tat ggg ggt ctg att gct gtg atg cac aca gct ggc	480
Val Ser Trp Leu Tyr Gly Leu Ile Ala Val Met His Thr Ala Gly	
145 150 155 160	
acc ttc tcc tta tcc tac tgt ggg tcc aac atg gtc cat cag ttc ttc	528
Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Met Val His Gln Phe Phe	
165 170 175	
tgt gac att ccc cag tta tta gct att tct tgc tca gaa aat tta ata	576
Cys Asp Ile Pro Gln Leu Leu Ala Ile Ser Cys Ser Glu Asn Leu Ile	
180 185 190	
aga gaa att gca ctc atc ctt att aat gta gtt ttg gat ttc tgc tgt	624
Arg Glu Ile Ala Leu Ile Leu Ile Asn Val Val Leu Asp Phe Cys Cys	
195 200 205	
ttt att gtc atc atc att acc tat gtc cac gtc ttc tct aca gtc aag	672
Phe Ile Val Ile Ile Ile Thr Tyr Val His Val Phe Ser Thr Val Lys	
210 215 220	

aag atc cct tcc aca gaa ggc cag tca aaa gcc tac tct att tgc ctt 720  
Lys Ile Pro Ser Thr Glu Gly Gln Ser Lys Ala Tyr Ser Ile Cys Leu  
225 230 235 240  
  
cca cac ttg ctg gtt gtg tta ttt ctt tcc act gga ttc att gct tat 768  
Pro His Leu Leu Val Val Leu Phe Leu Ser Thr Gly Phe Ile Ala Tyr  
245 250 255  
  
ctg aag cca gct tca gag tct cct tct att ttg gat gct gta att tct 816  
Leu Lys Pro Ala Ser Glu Ser Pro Ser Ile Leu Asp Ala Val Ile Ser  
260 265 270  
  
gtg ttc tac act atg ctg ccc cca acc ttt aat ccc att ata tac agt 864  
Val Phe Tyr Thr Met Leu Pro Pro Thr Phe Asn Pro Ile Ile Tyr Ser  
275 280 285  
  
ttg aga aac aag gcc ata aag gtg gct ctg ggg atg ttg ata aag gga 912  
Leu Arg Asn Lys Ala Ile Lys Val Ala Leu Gly Met Leu Ile Lys Gly  
290 295 300  
  
aag ctc acc aaa aag taa 930  
Lys Leu Thr Lys Lys  
305

<210> 116  
<211> 309  
<212> PRT  
<213> Homo Sapiens

<400> 116

Met Ala Asn Leu Thr Ile Val Thr Glu Phe Ile Leu Met Gly Phe Ser  
1 5 10 15

Thr Asn Lys Asn Met Cys Ile Leu His Ser Ile Leu Phe Leu Leu Ile  
20 25 30

Tyr Leu Cys Ala Leu Met Gly Asn Val Leu Ile Ile Met Ile Thr Thr  
35 40 45

Leu Asp His His Leu His Thr Pro Val Tyr Phe Phe Leu Lys Asn Leu  
50 55 60

Ser Phe Leu Asp Leu Cys Leu Ile Ser Val Thr Ala Pro Lys Ser Ile  
65 70 75 80

Ala Asn Ser Leu Ile His Asn Asn Ser Ile Ser Phe Leu Gly Cys Val  
85 90 95

Ser Gln Val Phe Leu Leu Leu Ser Ser Ala Ser Ala Glu Leu Leu Leu  
100 105 110

Leu Thr Val Met Ser Phe Asp Arg Tyr Thr Ala Ile Cys His Pro Leu

115	120	125
His Tyr Asp Val Ile Met Asp Arg Ser Thr Cys Val Gln Arg Ala Thr		
130	135	140
Val Ser Trp Leu Tyr Gly Gly Leu Ile Ala Val Met His Thr Ala Gly		
145	150	155
Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Met Val His Gln Phe Phe		
165	170	175
Cys Asp Ile Pro Gln Leu Leu Ala Ile Ser Cys Ser Glu Asn Leu Ile		
180	185	190
Arg Glu Ile Ala Leu Ile Leu Ile Asn Val Val Leu Asp Phe Cys Cys		
195	200	205
Phe Ile Val Ile Ile Ile Thr Tyr Val His Val Phe Ser Thr Val Lys		
210	215	220
Lys Ile Pro Ser Thr Glu Gly Gln Ser Lys Ala Tyr Ser Ile Cys Leu		
225	230	235
Pro His Leu Leu Val Val Leu Phe Leu Ser Thr Gly Phe Ile Ala Tyr		
245	250	255
Leu Lys Pro Ala Ser Glu Ser Pro Ser Ile Leu Asp Ala Val Ile Ser		
260	265	270
Val Phe Tyr Thr Met Leu Pro Pro Thr Phe Asn Pro Ile Ile Tyr Ser		
275	280	285
Leu Arg Asn Lys Ala Ile Lys Val Ala Leu Gly Met Leu Ile Lys Gly		
290	295	300
Lys Leu Thr Lys Lys		
305		

<210> 117  
 <211> 966  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(963)  
 <223>

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<400> 117
atg ccc ata ctt atg gct ata gga aac tgg aca gaa ata agt gaa ttt      48
Met Pro Ile Leu Met Ala Ile Gly Asn Trp Thr Glu Ile Ser Glu Phe
1          5          10          15

atc ctc atg agc ttc tct tcc cta cct act gaa ata cag tca ttg ctc      96
Ile Leu Met Ser Phe Ser Ser Leu Pro Thr Glu Ile Gln Ser Leu Leu
          20          25          30

ttc ctg aca ttt cta act atc tat ttg gtt act ctg aag gga aac agc      144
Phe Leu Thr Phe Leu Thr Ile Tyr Leu Val Thr Leu Lys Gly Asn Ser
          35          40          45

ctc atc att ctg gtt acc cta gct gac ccc atg cta cac agc ccc atg      192
Leu Ile Ile Leu Val Thr Leu Ala Asp Pro Met Leu His Ser Pro Met
          50          55          60

tac ttc ttc ctc aga aac tta tct ttc ctg gag att ggc ttc aac cta      240
Tyr Phe Phe Leu Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu
65          70          75          80

gtc att gtg ccc aaa atg ctg ggg acc ctg ctt gcc cag gac aca acc      288
Val Ile Val Pro Lys Met Leu Gly Thr Leu Leu Ala Gln Asp Thr Thr
          85          90          95

atc tcc ttc ctt ggc tgt gcc act cag atg tat ttc ttc ttc ttc ttt      336
Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe
          100          105          110

ggg gta gct gaa tgc ttc ctc ctg gct acc atg gca tat gac cgc tat      384
Gly Val Ala Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr
          115          120          125

gtg gcc atc tgc agt ccc ttg cac tac cca gtc atc atg aac caa agg      432
Val Ala Ile Cys Ser Pro Leu His Tyr Pro Val Ile Met Asn Gln Arg
          130          135          140

aca cgg gcc aaa ctg gct gct gct tcc tgg ttc cca ggc ttt cct gta      480
Thr Arg Ala Lys Leu Ala Ala Ala Ser Trp Phe Pro Gly Phe Pro Val
145          150          155          160

gct act gtg cag acc aca tgg ctc ttc agt ttt cca ttc tgt ggc acc      528
Ala Thr Val Gln Thr Trp Leu Phe Ser Phe Pro Phe Cys Gly Thr
          165          170          175

aac aag gtg aac cac ttc ttc tgt gac agc ccg cct gtg ctg aag ctg      576
Asn Lys Val Asn His Phe Phe Cys Asp Ser Pro Pro Val Leu Lys Leu
          180          185          190

gtc tgt gca gac aca gca ctg ttt gag atc tac gcc atc gtc gga acc      624
Val Cys Ala Asp Thr Ala Leu Phe Glu Ile Tyr Ala Ile Val Gly Thr
          195          200          205

att ctg gtg gtc atg atc ccc tgc ttg ctg atc ttg tgt tcc tat act      672
Ile Leu Val Val Met Ile Pro Cys Leu Leu Ile Leu Cys Ser Tyr Thr
          210          215          220

cgc att gct gct gct atc ctc aag atc cca tca gct aaa ggg aag cat      720
Arg Ile Ala Ala Ala Ile Leu Lys Ile Pro Ser Ala Lys Gly Lys His
225          230          235          240

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aaa gcc ttc tct acg tgc tcc tca cac ctc ctt gtt gtc tct ctt ttc      768
Lys Ala Phe Ser Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe
                245                      250                      255

tat ata tct tct agc ctc acc tac ttc tgg cct aaa tca aat aat tct      816
Tyr Ile Ser Ser Ser Leu Thr Tyr Phe Trp Pro Lys Ser Asn Asn Ser
                260                      265                      270

cct gag agc aag aag ttg tta tca tta tcc tac act gtt gtg act ccc      864
Pro Glu Ser Lys Lys Leu Leu Ser Leu Ser Tyr Thr Val Val Thr Pro
                275                      280                      285

atg ttg aac ccc att atc tac agc ttg aga aat agc gag gtg aag aat      912
Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Ser Glu Val Lys Asn
                290                      295                      300

gcc ctc agc agg acc ttc cac aag gtc cta gcc ctc aga aac tgt atc      960
Ala Leu Ser Arg Thr Phe His Lys Val Leu Ala Leu Arg Asn Cys Ile
                305                      310                      315                      320

cca tag
Pro
                                                                966

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<210> 118
<211> 321
<212> PRT
<213> Homo Sapiens

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```

<400> 118

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Met Pro Ile Leu Met Ala Ile Gly Asn Trp Thr Glu Ile Ser Glu Phe
1              5              10              15

```

```

Ile Leu Met Ser Phe Ser Ser Leu Pro Thr Glu Ile Gln Ser Leu Leu
20              25              30

```

```

Phe Leu Thr Phe Leu Thr Ile Tyr Leu Val Thr Leu Lys Gly Asn Ser
35              40              45

```

```

Leu Ile Ile Leu Val Thr Leu Ala Asp Pro Met Leu His Ser Pro Met
50              55              60

```

```

Tyr Phe Phe Leu Arg Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu
65              70              75              80

```

```

Val Ile Val Pro Lys Met Leu Gly Thr Leu Leu Ala Gln Asp Thr Thr
85              90              95

```

```

Ile Ser Phe Leu Gly Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe
100              105              110

```

Gly Val Ala Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Ser Pro Leu His Tyr Pro Val Ile Met Asn Gln Arg  
 130 135 140

Thr Arg Ala Lys Leu Ala Ala Ala Ser Trp Phe Pro Gly Phe Pro Val  
 145 150 155 160

Ala Thr Val Gln Thr Thr Trp Leu Phe Ser Phe Pro Phe Cys Gly Thr  
 165 170 175

Asn Lys Val Asn His Phe Phe Cys Asp Ser Pro Pro Val Leu Lys Leu  
 180 185 190

Val Cys Ala Asp Thr Ala Leu Phe Glu Ile Tyr Ala Ile Val Gly Thr  
 195 200 205

Ile Leu Val Val Met Ile Pro Cys Leu Leu Ile Leu Cys Ser Tyr Thr  
 210 215 220

Arg Ile Ala Ala Ala Ile Leu Lys Ile Pro Ser Ala Lys Gly Lys His  
 225 230 235 240

Lys Ala Phe Ser Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe  
 245 250 255

Tyr Ile Ser Ser Ser Leu Thr Tyr Phe Trp Pro Lys Ser Asn Asn Ser  
 260 265 270

Pro Glu Ser Lys Lys Leu Leu Ser Leu Ser Tyr Thr Val Val Thr Pro  
 275 280 285

Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Ser Glu Val Lys Asn  
 290 295 300

Ala Leu Ser Arg Thr Phe His Lys Val Leu Ala Leu Arg Asn Cys Ile  
 305 310 315 320

Pro

<210> 119  
 <211> 933  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (930)

&lt;223&gt;

&lt;400&gt; 119

caa act atg aga cag ata aat cag aca caa gtg aca gaa ttc ctc ctt	48
Gln Thr Met Arg Gln Ile Asn Gln Thr Gln Val Thr Glu Phe Leu Leu	
1 5 10 15	
ctg gga ctc tct gat ggg cca cac acc gag cag ctg cta ttt atc gta	96
Leu Gly Leu Ser Asp Gly Pro His Thr Glu Gln Leu Leu Phe Ile Val	
20 25 30	
tta ttg ggt gtc tac ctg gtc act gtg ctt gga aat ctg ctt cta atc	144
Leu Leu Gly Val Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Leu Ile	
35 40 45	
tcc ctt gtt cat gtt gac tcc caa ctt cac aca ccc atg tat ttt ttt	192
Ser Leu Val His Val Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe	
50 55 60	
ctc tgc aac ttg tct ctg gct gac ctc tgt ttc tct acc aac ata gtt	240
Leu Cys Asn Leu Ser Leu Ala Asp Leu Cys Phe Ser Thr Asn Ile Val	
65 70 75 80	
cct cag gca cta gtc cac ctg ctt tcc aga aag aag gtc att gca ttc	288
Pro Gln Ala Leu Val His Leu Leu Ser Arg Lys Lys Val Ile Ala Phe	
85 90 95	
aca ctt tgc gca gct cga ctt ctc ttt ttc ctc att ttt ggg tgt acc	336
Thr Leu Cys Ala Ala Arg Leu Leu Phe Phe Leu Ile Phe Gly Cys Thr	
100 105 110	
cag tgc gcc ctt ctt gca gtg atg tcc tat gat cgc tat gtt gca atc	384
Gln Cys Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc aat cct ctg cgt tac cct aac atc atg acc tgg aaa gtg tgt gtc	432
Cys Asn Pro Leu Arg Tyr Pro Asn Ile Met Thr Trp Lys Val Cys Val	
130 135 140	
cag ctg gca aca gga tca tgg acc agt ggc att ctg gtg tct gtg gta	480
Gln Leu Ala Thr Gly Ser Trp Thr Ser Gly Ile Leu Val Ser Val Val	
145 150 155 160	
gac acc acc ttc ata ctg agg cta ccc tac cga ggc agt aac agc att	528
Asp Thr Thr Phe Ile Leu Arg Leu Pro Tyr Arg Gly Ser Asn Ser Ile	
165 170 175	
gct cat ttc ttt tgt gag gcc cct gca cta ttg atc tta gca tcc aca	576
Ala His Phe Phe Cys Glu Ala Pro Ala Leu Leu Ile Leu Ala Ser Thr	
180 185 190	
gac acc cat gca tca gag atg gcc att ttt ctt atg ggg gtt gtg att	624
Asp Thr His Ala Ser Glu Met Ala Ile Phe Leu Met Gly Val Val Ile	
195 200 205	
ctc ctc ata cct gtt ttt ctg att ctg gta tcc tat ggc cgt atc ata	672
Leu Leu Ile Pro Val Phe Leu Ile Leu Val Ser Tyr Gly Arg Ile Ile	

210	215	220	
gta act gtg gtc aag atg aag tca act gtg ggg agt ctc aag gca ttt			720
Val Thr Val Val Lys Met Lys Ser Thr Val Gly Ser Leu Lys Ala Phe			
225	230	235	240
tct acc tgt ggc tcc cac ctc atg gtg gtc ata ctt ttt tat gga tca			768
Ser Thr Cys Gly Ser His Leu Met Val Val Ile Leu Phe Tyr Gly Ser			
	245	250	255
gca att atc act tac atg aca ccc aag tct tcc aaa cag cag gaa aaa			816
Ala Ile Ile Thr Tyr Met Thr Pro Lys Ser Ser Lys Gln Gln Glu Lys			
	260	265	270
tcg gtg tct gtt ttc tat gca ata gtg act ccc atg ctt aat ccc ctc			864
Ser Val Ser Val Phe Tyr Ala Ile Val Thr Pro Met Leu Asn Pro Leu			
	275	280	285
atc tat agc ctg aga aac aag gat gtg aag gca gct ctg agg aaa gta			912
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Lys Val			
	290	295	300
gcc aca agg aat ttc cca tga			933
Ala Thr Arg Asn Phe Pro			
305	310		

<210> 120  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 120

Gln Thr Met Arg Gln Ile Asn Gln Thr Gln Val Thr Glu Phe Leu Leu			
1	5	10	15
Leu Gly Leu Ser Asp Gly Pro His Thr Glu Gln Leu Leu Phe Ile Val			
	20	25	30
Leu Leu Gly Val Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile			
	35	40	45
Ser Leu Val His Val Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe			
	50	55	60
Leu Cys Asn Leu Ser Leu Ala Asp Leu Cys Phe Ser Thr Asn Ile Val			
65	70	75	80
Pro Gln Ala Leu Val His Leu Leu Ser Arg Lys Lys Val Ile Ala Phe			
	85	90	95
Thr Leu Cys Ala Ala Arg Leu Leu Phe Phe Leu Ile Phe Gly Cys Thr			
	100	105	110



Gln Cys Ala Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Arg Tyr Pro Asn Ile Met Thr Trp Lys Val Cys Val  
 130 135 140

Gln Leu Ala Thr Gly Ser Trp Thr Ser Gly Ile Leu Val Ser Val Val  
 145 150 155 160

Asp Thr Thr Phe Ile Leu Arg Leu Pro Tyr Arg Gly Ser Asn Ser Ile  
 165 170 175

Ala His Phe Phe Cys Glu Ala Pro Ala Leu Leu Ile Leu Ala Ser Thr  
 180 185 190

Asp Thr His Ala Ser Glu Met Ala Ile Phe Leu Met Gly Val Val Ile  
 195 200 205

Leu Leu Ile Pro Val Phe Leu Ile Leu Val Ser Tyr Gly Arg Ile Ile  
 210 215 220

Val Thr Val Val Lys Met Lys Ser Thr Val Gly Ser Leu Lys Ala Phe  
 225 230 235 240

Ser Thr Cys Gly Ser His Leu Met Val Val Ile Leu Phe Tyr Gly Ser  
 245 250 255

Ala Ile Ile Thr Tyr Met Thr Pro Lys Ser Ser Lys Gln Gln Glu Lys  
 260 265 270

Ser Val Ser Val Phe Tyr Ala Ile Val Thr Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Leu Arg Lys Val  
 290 295 300

Ala Thr Arg Asn Phe Pro  
 305 310

<210> 121  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)

&lt;223&gt;

&lt;400&gt; 121

atg gag ctc tgg aac ttc acc ttg gga agt ggc ttc att ttg gtg ggg	48
Met Glu Leu Trp Asn Phe Thr Leu Gly Ser Gly Phe Ile Leu Val Gly	
1 5 10 15	
att ctg aat gac agt ggg tct cct gaa ctg ctc tgt gct aca att aca	96
Ile Leu Asn Asp Ser Gly Ser Pro Glu Leu Leu Cys Ala Thr Ile Thr	
20 25 30	
atc cta tac ttg ttg gcc ctg atc agc aat ggc cta ctg ctc ctg gct	144
Ile Leu Tyr Leu Leu Ala Leu Ile Ser Asn Gly Leu Leu Leu Ala	
35 40 45	
atc acc atg gaa gcc cgg ctg cac atg ccc atg tac ctc ctg ctt ggg	192
Ile Thr Met Glu Ala Arg Leu His Met Pro Met Tyr Leu Leu Leu Gly	
50 55 60	
cag ctc tct ctc atg gac ctc ctg ttc aca tct gtt gtc act ccc aag	240
Gln Leu Ser Leu Met Asp Leu Leu Phe Thr Ser Val Val Thr Pro Lys	
65 70 75 80	
gcc ctt gcg gac ttt ctg cgc aga gaa aac acc atc tcc ttt gga ggc	288
Ala Leu Ala Asp Phe Leu Arg Arg Glu Asn Thr Ile Ser Phe Gly Gly	
85 90 95	
tgt gcc ctt cag atg ttc ctg gca ctg aca atg ggt ggt gct gag gac	336
Cys Ala Leu Gln Met Phe Leu Ala Leu Thr Met Gly Gly Ala Glu Asp	
100 105 110	
ctc cta ctg gcc ttc atg gcc tat gac agg tat gtg gcc att tgt cat	384
Leu Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His	
115 120 125	
cct ctg aca tac atg acc ctc atg agc tca aga gcc tgc tgg ctc atg	432
Pro Leu Thr Tyr Met Thr Leu Met Ser Ser Arg Ala Cys Trp Leu Met	
130 135 140	
gtg gcc acg tcc tgg atc ctg gca tcc cta agt gcc cta ata tat acc	480
Val Ala Thr Ser Trp Ile Leu Ala Ser Leu Ser Ala Leu Ile Tyr Thr	
145 150 155 160	
gtg tat acc atg cac tat ccc ttc tgc agg gcc cag gag atc agg cat	528
Val Tyr Thr Met His Tyr Pro Phe Cys Arg Ala Gln Glu Ile Arg His	
165 170 175	
ctt ctc tgt gag atc cca cac ttg ctg aag gtg gcc tgt gct gat acc	576
Leu Leu Cys Glu Ile Pro His Leu Leu Lys Val Ala Cys Ala Asp Thr	
180 185 190	
tcc aga tat gag ctc atg gta tat gtg atg ggt gtg acc ttc ctg att	624
Ser Arg Tyr Glu Leu Met Val Tyr Val Met Gly Val Thr Phe Leu Ile	
195 200 205	
ccc tct ctt gct gct ata ctg gcc tcc tat aca caa att cta ctc act	672
Pro Ser Leu Ala Ala Ile Leu Ala Ser Tyr Thr Gln Ile Leu Leu Thr	
210 215 220	
gtg ctc cat atg cca tca aat gag ggg agg aag aaa gcc ctt gtc acc	720

Val Leu His Met Pro Ser Asn Glu Gly Arg Lys Lys Ala Leu Val Thr  
 225 230 235 240  
 tgc tct tcc cac ctg act gtg gtt ggg atg ttc tat gga gct gcc aca 768  
 Cys Ser Ser His Leu Thr Val Val Gly Met Phe Tyr Gly Ala Ala Thr  
 245 250 255  
 ttc atg tat gtc ttg ccc agt tcc ttc cac agc acc aga caa gac aac 816  
 Phe Met Tyr Val Leu Pro Ser Ser Phe His Ser Thr Arg Gln Asp Asn  
 260 265 270  
 atc atc tct gtt ttc tac aca att gtc act cca gcc ctg aat cca ctc 864  
 Ile Ile Ser Val Phe Tyr Thr Ile Val Thr Pro Ala Leu Asn Pro Leu  
 275 280 285  
 atc tac agc ctg agg aat aag gag gtc atg cgg gcc ttg agg agg gtc 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Met Arg Ala Leu Arg Arg Val  
 290 295 300  
 ctg gga aaa tac atg ctg cca gca cac tcc acg ctc tag 951  
 Leu Gly Lys Tyr Met Leu Pro Ala His Ser Thr Leu  
 305 310 315

<210> 122  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 122

Met Glu Leu Trp Asn Phe Thr Leu Gly Ser Gly Phe Ile Leu Val Gly  
 1 5 10 15

Ile Leu Asn Asp Ser Gly Ser Pro Glu Leu Leu Cys Ala Thr Ile Thr  
 20 25 30

Ile Leu Tyr Leu Leu Ala Leu Ile Ser Asn Gly Leu Leu Leu Ala  
 35 40 45

Ile Thr Met Glu Ala Arg Leu His Met Pro Met Tyr Leu Leu Leu Gly  
 50 55 60

Gln Leu Ser Leu Met Asp Leu Leu Phe Thr Ser Val Val Thr Pro Lys  
 65 70 75 80

Ala Leu Ala Asp Phe Leu Arg Arg Glu Asn Thr Ile Ser Phe Gly Gly  
 85 90 95

Cys Ala Leu Gln Met Phe Leu Ala Leu Thr Met Gly Gly Ala Glu Asp  
 100 105 110

Leu Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Thr Tyr Met Thr Leu Met Ser Ser Arg Ala Cys Trp Leu Met  
 130 135 140

Val Ala Thr Ser Trp Ile Leu Ala Ser Leu Ser Ala Leu Ile Tyr Thr  
 145 150 155 160

Val Tyr Thr Met His Tyr Pro Phe Cys Arg Ala Gln Glu Ile Arg His  
 165 170 175

Leu Leu Cys Glu Ile Pro His Leu Leu Lys Val Ala Cys Ala Asp Thr  
 180 185 190

Ser Arg Tyr Glu Leu Met Val Tyr Val Met Gly Val Thr Phe Leu Ile  
 195 200 205

Pro Ser Leu Ala Ala Ile Leu Ala Ser Tyr Thr Gln Ile Leu Leu Thr  
 210 215 220

Val Leu His Met Pro Ser Asn Glu Gly Arg Lys Lys Ala Leu Val Thr  
 225 230 235 240

Cys Ser Ser His Leu Thr Val Val Gly Met Phe Tyr Gly Ala Ala Thr  
 245 250 255

Phe Met Tyr Val Leu Pro Ser Ser Phe His Ser Thr Arg Gln Asp Asn  
 260 265 270

Ile Ile Ser Val Phe Tyr Thr Ile Val Thr Pro Ala Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Met Arg Ala Leu Arg Arg Val  
 290 295 300

Leu Gly Lys Tyr Met Leu Pro Ala His Ser Thr Leu  
 305 310 315

<210> 123  
 <211> 897  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (894)  
 <223>

<400> 123  
 atg aga aat cac aca atg gtg act gaa ttc atc ctt ctg gga atc cct 48  
 Met Arg Asn His Thr Met Val Thr Glu Phe Ile Leu Leu Gly Ile Pro  
 1 5 10 15

gag aca gag ggc cta gag aca gcc ctt tta ttc ctg ttc tcc tca ttt 96  
 Glu Thr Glu Gly Leu Glu Thr Ala Leu Leu Phe Leu Phe Ser Ser Phe  
 20 25 30

tat tta tgc acc ctc ttg gga aac gtg ctt atc ctt aca gct atc atc 144  
 Tyr Leu Cys Thr Leu Leu Gly Asn Val Leu Ile Leu Thr Ala Ile Ile  
 35 40 45

tcc tcc act cga ctt cac act cct atg tat ttt ttc ttg gga aac ctc 192  
 Ser Ser Thr Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu  
 50 55 60

tcc atc ttt gac ctg ggt ttc tct tca acg act gtt ccc aag atg ttg 240  
 Ser Ile Phe Asp Leu Gly Phe Ser Ser Thr Thr Val Pro Lys Met Leu  
 65 70 75 80

ttc tac ctt tcg ggg aac agc cat gct atc tcg tat gca ggc tgc gtg 288  
 Phe Tyr Leu Ser Gly Asn Ser His Ala Ile Ser Tyr Ala Gly Cys Val  
 85 90 95

tcc cag ctt ttc ttc tac cat ttc cta ggc tgt act gag tgt ttc ctc 336  
 Ser Gln Leu Phe Phe Tyr His Phe Leu Gly Cys Thr Glu Cys Phe Leu  
 100 105 110

tac aca gtg atg gcc tgt gac cgc ttt gtt gcc ata tgt ttt cct ttg 384  
 Tyr Thr Val Met Ala Cys Asp Arg Phe Val Ala Ile Cys Phe Pro Leu  
 115 120 125

aga tac acg gtc atc atg aac cac agg gtg tgc ttt atg ttg gcc acg 432  
 Arg Tyr Thr Val Ile Met Asn His Arg Val Cys Phe Met Leu Ala Thr  
 130 135 140

ggg acc tgg atg att ggc tgt gtc cat gcc atg atc cta act ccc ctc 480  
 Gly Thr Trp Met Ile Gly Cys Val His Ala Met Ile Leu Thr Pro Leu  
 145 150 155 160

acc ttc cag tta cct tac tgt ggc cct aac aag gtg ggc tat tac ttc 528  
 Thr Phe Gln Leu Pro Tyr Cys Gly Pro Asn Lys Val Gly Tyr Tyr Phe  
 165 170 175

tgt gat att cct gca gtg tta cct cta gcc tgt aag gac aca tcc tta 576  
 Cys Asp Ile Pro Ala Val Leu Pro Leu Ala Cys Lys Asp Thr Ser Leu  
 180 185 190

gcc cag agg gta ggt ttt aca aat gtt ggt ctt ttg tct ctc att tgc 624  
 Ala Gln Arg Val Gly Phe Thr Asn Val Gly Leu Leu Ser Leu Ile Cys  
 195 200 205

ttt ttt ctc atc ctt gtt tcc tat act tgc att ggg att tcc ata tca 672  
 Phe Phe Leu Ile Leu Val Ser Tyr Thr Cys Ile Gly Ile Ser Ile Ser  
 210 215 220

aaa atc cgc tca gca gag ggc agg cag cgg gcc ttc tcc acc tgc agc 720  
 Lys Ile Arg Ser Ala Glu Gly Arg Gln Arg Ala Phe Ser Thr Cys Ser  
 225 230 235 240

[illegible]

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<210> 124
<211> 298
<212> PRT
<213> Homo Sapiens
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<400> 124

Met Arg Asn His Thr Met Val Thr Glu Phe Ile Leu Leu Gly Ile Pro  
1 5 10 15

Glu Thr Glu Gly Leu Glu Thr Ala Leu Leu Phe Leu Phe Ser Ser Phe  
20 25 30

Tyr Leu Cys Thr Leu Leu Gly Asn Val Leu Ile Leu Thr Ala Ile Ile  
35 40 45

Ser Ser Thr Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu  
50 55 60

Ser Ile Phe Asp Leu Gly Phe Ser Ser Thr Thr Val Pro Lys Met Leu  
65 70 75 80

Phe Tyr Leu Ser Gly Asn Ser His Ala Ile Ser Tyr Ala Gly Cys Val  
85 90 95

Ser Gln Leu Phe Phe Tyr His Phe Leu Gly Cys Thr Glu Cys Phe Leu  
100 105 110

Tyr Thr Val Met Ala Cys Asp Arg Phe Val Ala Ile Cys Phe Pro Leu  
115 120 125

Arg Tyr Thr Val Ile Met Asn His Arg Val Cys Phe Met Leu Ala Thr  
130 135 140

Gly Thr Trp Met Ile Gly Cys Val His Ala Met Ile Leu Thr Pro Leu

<400>	125																
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Met Asn Ser Leu Lys Asp Gly Asn His Thr Ala Leu Thr Gly Phe Ile																	
1	5	10										15					
cta ttg ggc tta aca gat gat cca atc ctt cga gtc atc ctc ttc atg																	96
Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met																	
	20	25										30					
atc atc cta tct ggt aat ctc agc ata att att ctt atc aga att tct																	144
Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser																	

35	40	45	
tct cag ctc cat cat cct atg tat ttc ttt ctg agc cac ttg gct ttt Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe 50 55 60			192
gct gac atg gcc tat tca tct tct gtc aca ccc aac atg ctt gta aac Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn 65 70 75 80			240
ttc ctg gtg gag aga aat aca gtc tcc tac ctt gga tgt gcc atc cag Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln 85 90 95			288
ctt ggt tca gcg gct ttc ttt gca aca gtc gaa tgc gtc ctt ctg gct Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala 100 105 110			336
gcc atg gcc tat gac cgc ttt gtg gca att tgc agt cca ctg ctt tat Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr 115 120 125			384
tca acc aaa atg tcc aca caa gtc agt gtc cag cta ctc tta gta gtt Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val 130 135 140			432
tac ata gct ggt ttt ctc att gct gtc tcc tat act act tcc ttc tat Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr 145 150 155 160			480
ttt tta ctc ttc tgt gga cca aat caa gtc aat cat ttt ttc tgt gat Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp 165 170 175			528
ttc gct ccc tta ctt gaa ctc tcc tgt tct gat atc agt gtc tcc aca Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr 180 185 190			576
gtt gtt ctc tca ttt tct tct gga tcc atc att gtg gtc act gtg tgt Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys 195 200 205			624
gtc ata gcc gtc tgc tac atc tat atc ctc atc acc atc ctg aag atg Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met 210 215 220			672
cgc tcc act gag ggg cac cac aag gcc ttc tcc acc tgc act tcc cac Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His 225 230 235 240			720
ctc act gtg gtt acc ctg ttc tat ggg acc att acc ttc att tat gtg Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val 245 250 255			768
atg ccc aat ttt agc tac tca act gac cag aac aag gtg gtg tct gtg Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val 260 265 270			816
ttg tac aca gtg gtg att ccc atg ttg aac ccc ctg atc tac agc ctc Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu 275 280 285			864



agg aac aag gag att aag ggg gct ctg aag aga gag ctt gtt aga aaa 912  
 Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300

ata ctt tct cat gat gct tgt tat ttt agt aga act tca aat aat gat 960  
 Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320

att aca tag 969  
 Ile Thr

<210> 126  
 <211> 322  
 <212> PRT  
 <213> Homo Sapiens

<400> 126

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Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met  
 20 25 30

Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser  
 35 40 45

Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe  
 50 55 60

Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn  
 65 70 75 80

Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln  
 85 90 95

Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala  
 100 105 110

Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr  
 115 120 125

Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val  
 130 135 140

Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr  
 145 150 155 160

Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp  
 165 170 175

Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr  
 180 185 190

Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys  
 195 200 205

Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met  
 210 215 220

Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His  
 225 230 235 240

Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val  
 245 250 255

Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val  
 260 265 270

Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
 275 280 285

Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300

Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320

Ile Thr

<210> 127  
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 <212> DNA  
 <213> Homo Sapiens

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 <222> (1) .. (942)  
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 Met Glu Asn Asn Thr Glu Val Ser Glu Phe Ile Leu Leu Gly Leu Thr  
 1 5 10 15  
 aat gcc cca gaa cta cag gtt ccc ctc ttt atc atg ttt acc ctc atc 96

Asn	Ala	Pro	Glu	Leu	Gln	Val	Pro	Leu	Phe	Ile	Met	Phe	Thr	Leu	Ile	
			20					25					30			
tac	ctc	atc	act	ctg	act	ggg	aac	ctg	ggg	atg	atc	ata	tta	atc	ctg	144
Tyr	Leu	Ile	Thr	Leu	Thr	Gly	Asn	Leu	Gly	Met	Ile	Ile	Leu	Ile	Leu	
		35					40				45					
ctg	gac	tct	cat	ctc	cac	act	ccc	atg	tac	ttt	ttt	ctc	agt	aac	ctg	192
Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser	Asn	Leu	
	50					55					60					
tct	ctt	gca	ggc	att	ggg	tac	tcc	tca	gct	gtc	act	cca	aag	gtt	tta	240
Ser	Leu	Ala	Gly	Ile	Gly	Tyr	Ser	Ser	Ala	Val	Thr	Pro	Lys	Val	Leu	
65				70					75					80		
act	ggg	ttg	ctt	ata	gaa	gac	aaa	gcc	atc	tcc	tac	agt	gcc	tgt	gct	288
Thr	Gly	Leu	Leu	Ile	Glu	Asp	Lys	Ala	Ile	Ser	Tyr	Ser	Ala	Cys	Ala	
			85					90					95			
gct	cag	atg	ttc	ttt	tgt	gca	gtc	ttt	gcc	act	gtg	gaa	aat	tac	ctc	336
Ala	Gln	Met	Phe	Phe	Cys	Ala	Val	Phe	Ala	Thr	Val	Glu	Asn	Tyr	Leu	
			100					105					110			
ttg	tcc	tca	atg	gcc	tat	gac	cgc	tac	gca	gca	gtg	tgt	aac	ccc	cta	384
Leu	Ser	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Val	Cys	Asn	Pro	Leu	
			115				120					125				
cat	tat	acc	acc	acc	atg	aca	aca	cgt	gtg	tgt	gct	tgt	ctg	gct	ata	432
His	Tyr	Thr	Thr	Thr	Met	Thr	Thr	Arg	Val	Cys	Ala	Cys	Leu	Ala	Ile	
			130			135					140					
ggc	tgt	tat	gtc	att	ggg	ttt	ctg	aat	gct	tct	atc	caa	att	gga	gat	480
Gly	Cys	Tyr	Val	Ile	Gly	Phe	Leu	Asn	Ala	Ser	Ile	Gln	Ile	Gly	Asp	
145				150					155					160		
aca	ttt	cgc	ctc	tct	ttc	tgc	atg	tcc	aat	gtg	att	cat	cac	ttt	ttc	528
Thr	Phe	Arg	Leu	Ser	Phe	Cys	Met	Ser	Asn	Val	Ile	His	His	Phe	Phe	
			165					170						175		
tgt	gac	aaa	cca	gca	gtc	att	act	ctg	acc	tgc	tct	gag	aaa	cac	att	576
Cys	Asp	Lys	Pro	Ala	Val	Ile	Thr	Leu	Thr	Cys	Ser	Glu	Lys	His	Ile	
			180					185					190			
agt	gag	ttg	att	ctt	gtt	ctt	ata	tca	agt	ttt	aat	gtc	ttt	ttt	gca	624
Ser	Glu	Leu	Ile	Leu	Val	Leu	Ile	Ser	Ser	Phe	Asn	Val	Phe	Phe	Ala	
		195					200					205				
ctt	ctt	gtt	acc	ttg	att	tcc	tat	ctg	ttc	ata	ttg	atc	acc	att	ctt	672
Leu	Leu	Val	Thr	Leu	Ile	Ser	Tyr	Leu	Phe	Ile	Leu	Ile	Thr	Ile	Leu	
		210				215					220					
aag	agg	cac	aca	ggg	aag	gga	tac	cag	aag	cct	tta	tct	acc	tgt	ggg	720
Lys	Arg	His	Thr	Gly	Lys	Gly	Tyr	Gln	Lys	Pro	Leu	Ser	Thr	Cys	Gly	
225				230						235				240		
tct	cac	ctc	att	gcc	att	ttc	tta	ttt	tat	ata	act	gtc	atc	atc	atg	768
Ser	His	Leu	Ile	Ala	Ile	Phe	Leu	Phe	Tyr	Ile	Thr	Val	Ile	Ile	Met	
				245					250					255		
tac	ata	cga	cca	agt	tcc	agt	cat	tcc	atg	gac	aca	gac	aaa	att	gca	816
Tyr	Ile	Arg	Pro	Ser	Ser	Ser	His	Ser	Met	Asp	Thr	Asp	Lys	Ile	Ala	

260	265	270	
tct gtg ttc tac act atg atc atc ccc atg ctc agt cct ata gtc tat			864
Ser Val Phe Tyr Thr Met Ile Ile Pro Met Leu Ser Pro Ile Val Tyr			
275	280	285	
acc ctg agg aac aaa gac gtg aag aat gca ttc atg aag gtt gtt gag			912
Thr Leu Arg Asn Lys Asp Val Lys Asn Ala Phe Met Lys Val Val Glu			
290	295	300	
aag gca aaa tat tct cta gat tca gtc ttt taa			945
Lys Ala Lys Tyr Ser Leu Asp Ser Val Phe			
305	310		
<210>	128		
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<212>	PRT		
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Asn Ala Pro Glu Leu Gln Val Pro Leu Phe Ile Met Phe Thr Leu Ile			
20	25	30	
Tyr Leu Ile Thr Leu Thr Gly Asn Leu Gly Met Ile Ile Leu Ile Leu			
35	40	45	
Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu			
50	55	60	
Ser Leu Ala Gly Ile Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Leu			
65	70	75	80
Thr Gly Leu Leu Ile Glu Asp Lys Ala Ile Ser Tyr Ser Ala Cys Ala			
85	90	95	
Ala Gln Met Phe Phe Cys Ala Val Phe Ala Thr Val Glu Asn Tyr Leu			
100	105	110	
Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Asn Pro Leu			
115	120	125	
His Tyr Thr Thr Thr Met Thr Thr Arg Val Cys Ala Cys Leu Ala Ile			
130	135	140	
Gly Cys Tyr Val Ile Gly Phe Leu Asn Ala Ser Ile Gln Ile Gly Asp			
145	150	155	160

Thr Phe Arg Leu Ser Phe Cys Met Ser Asn Val Ile His His Phe Phe  
165 170 175

Cys Asp Lys Pro Ala Val Ile Thr Leu Thr Cys Ser Glu Lys His Ile  
180 185 190

Ser Glu Leu Ile Leu Val Leu Ile Ser Ser Phe Asn Val Phe Phe Ala  
195 200 205

Leu Leu Val Thr Leu Ile Ser Tyr Leu Phe Ile Leu Ile Thr Ile Leu  
210 215 220

Lys Arg His Thr Gly Lys Gly Tyr Gln Lys Pro Leu Ser Thr Cys Gly  
225 230 235 240

Ser His Leu Ile Ala Ile Phe Leu Phe Tyr Ile Thr Val Ile Ile Met  
245 250 255

Tyr Ile Arg Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Ile Ala  
260 265 270

Ser Val Phe Tyr Thr Met Ile Ile Pro Met Leu Ser Pro Ile Val Tyr  
275 280 285

Thr Leu Arg Asn Lys Asp Val Lys Asn Ala Phe Met Lys Val Val Glu  
290 295 300

Lys Ala Lys Tyr Ser Leu Asp Ser Val Phe  
305 310

<210> 129

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(939)

<223>

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gct ctc ctg gag att cga ata tct ctc ttc gtg gtt ctt gtg gta act 96  
Ala Leu Leu Glu Ile Arg Ile Ser Leu Phe Val Val Leu Val Val Thr  
20 25 30

tac	aca	tta	aca	gca	aca	gga	aac	atc	acc	atc	atc	tcc	ctg	ata	tgg	144
Tyr	Thr	Leu	Thr	Ala	Thr	Gly	Asn	Ile	Thr	Ile	Ile	Ser	Leu	Ile	Trp	
	35						40					45				
att	gat	cat	cgc	ctg	caa	act	cca	atg	tac	ttc	ttc	ctc	agt	aat	ttg	192
Ile	Asp	His	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser	Asn	Leu	
	50					55					60					
tcc	ttt	ctg	gat	atc	tta	tac	acc	act	gtc	att	acc	cca	aag	ttg	ttg	240
Ser	Phe	Leu	Asp	Ile	Leu	Tyr	Thr	Thr	Val	Ile	Thr	Pro	Lys	Leu	Leu	
65					70				75						80	
gcc	tgc	ctc	cta	gga	gaa	gag	aaa	acc	ata	tct	ttt	gct	ggg	tgc	atg	288
Ala	Cys	Leu	Leu	Gly	Glu	Glu	Lys	Thr	Ile	Ser	Phe	Ala	Gly	Cys	Met	
				85					90					95		
atc	caa	aca	tat	ttc	tac	ttc	ttt	ctg	ggg	acg	gtg	gag	ttt	atc	ctc	336
Ile	Gln	Thr	Tyr	Phe	Tyr	Phe	Phe	Leu	Gly	Thr	Val	Glu	Phe	Ile	Leu	
		100						105					110			
ttg	gcg	gtg	atg	tcc	ttt	gac	cgc	tac	atg	gct	atc	tgc	gac	cca	ctg	384
Leu	Ala	Val	Met	Ser	Phe	Asp	Arg	Tyr	Met	Ala	Ile	Cys	Asp	Pro	Leu	
	115						120					125				
cac	tac	acg	gtc	atc	atg	aac	agc	agg	gcc	tgc	ctt	ctg	ctg	gtt	ctg	432
His	Tyr	Thr	Val	Ile	Met	Asn	Ser	Arg	Ala	Cys	Leu	Leu	Leu	Val	Leu	
	130					135					140					
gga	tgc	tgg	gtg	gga	gcc	ttc	ctg	tct	gtg	ttg	ttt	cca	acc	att	gta	480
Gly	Cys	Trp	Val	Gly	Ala	Phe	Leu	Ser	Val	Leu	Phe	Pro	Thr	Ile	Val	
145					150				155						160	
gtg	aca	agg	cta	cct	tac	tgt	agg	aaa	gaa	att	aat	cat	ttc	ttc	tgt	528
Val	Thr	Arg	Leu	Pro	Tyr	Cys	Arg	Lys	Glu	Ile	Asn	His	Phe	Phe	Cys	
			165						170					175		
gac	att	gcc	cct	ctt	ctt	cag	gtg	gcc	tgt	ata	aat	act	cac	ctc	att	576
Asp	Ile	Ala	Pro	Leu	Leu	Gln	Val	Ala	Cys	Ile	Asn	Thr	His	Leu	Ile	
		180						185					190			
gag	aag	ata	aac	ttt	ctc	ctc	tct	gcc	ctt	gtc	atc	ctg	agc	tcc	ctg	624
Glu	Lys	Ile	Asn	Phe	Leu	Leu	Ser	Ala	Leu	Val	Ile	Leu	Ser	Ser	Leu	
	195						200					205				
gca	ttc	act	act	ggg	tcc	tac	gtg	tac	ata	att	tct	acc	atc	ctg	cgt	672
Ala	Phe	Thr	Thr	Gly	Ser	Tyr	Val	Tyr	Ile	Ile	Ser	Thr	Ile	Leu	Arg	
	210					215					220					
atc	ccc	tcc	acc	cag	ggc	cgt	cag	aaa	gct	ttt	tct	acc	tgt	gct	tct	720
Ile	Pro	Ser	Thr	Gln	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	Ala	Ser	
225					230				235						240	
cac	atc	act	gtt	gtc	tcc	att	gcc	cac	ggg	agc	aac	atc	ttt	gtg	tat	768
His	Ile	Thr	Val	Val	Ser	Ile	Ala	His	Gly	Ser	Asn	Ile	Phe	Val	Tyr	
			245						250					255		
gtg	aga	ccc	aat	cag	aac	tcc	tca	ctg	gat	tat	gac	aag	gtg	gcc	gct	816
Val	Arg	Pro	Asn	Gln	Asn	Ser	Ser	Leu	Asp	Tyr	Asp	Lys	Val	Ala	Ala	
			260					265					270			
gtc	ctc	atc	aca	gtg	gtg	acc	cct	ctc	ctg	aac	cct	ttt	atc	tac	agc	864

Val Leu Ile Thr Val Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr Ser  
 275 280 285  
 ttg agg aat gag aag gta cag gaa gtg ttg aga gag aca gtg aac aga 912  
 Leu Arg Asn Glu Lys Val Gln Glu Val Leu Arg Glu Thr Val Asn Arg  
 290 295 300  
 atc atg acc ttg ata caa agg aaa act tga 942  
 Ile Met Thr Leu Ile Gln Arg Lys Thr  
 305 310  
  
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 Ala Leu Leu Glu Ile Arg Ile Ser Leu Phe Val Val Leu Val Val Thr  
 20 25 30  
  
 Tyr Thr Leu Thr Ala Thr Gly Asn Ile Thr Ile Ile Ser Leu Ile Trp  
 35 40 45  
  
 Ile Asp His Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
 50 55 60  
  
 Ser Phe Leu Asp Ile Leu Tyr Thr Thr Val Ile Thr Pro Lys Leu Leu  
 65 70 75 80  
  
 Ala Cys Leu Leu Gly Glu Glu Lys Thr Ile Ser Phe Ala Gly Cys Met  
 85 90 95  
  
 Ile Gln Thr Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Ile Leu  
 100 105 110  
  
 Leu Ala Val Met Ser Phe Asp Arg Tyr Met Ala Ile Cys Asp Pro Leu  
 115 120 125  
  
 His Tyr Thr Val Ile Met Asn Ser Arg Ala Cys Leu Leu Leu Val Leu  
 130 135 140  
  
 Gly Cys Trp Val Gly Ala Phe Leu Ser Val Leu Phe Pro Thr Ile Val  
 145 150 155 160  
  
 Val Thr Arg Leu Pro Tyr Cys Arg Lys Glu Ile Asn His Phe Phe Cys  
 165 170 175

Asp Ile Ala Pro Leu Leu Gln Val Ala Cys Ile Asn Thr His Leu Ile  
180 185 190

Glu Lys Ile Asn Phe Leu Leu Ser Ala Leu Val Ile Leu Ser Ser Leu  
195 200 205

Ala Phe Thr Thr Gly Ser Tyr Val Tyr Ile Ile Ser Thr Ile Leu Arg  
210 215 220

Ile Pro Ser Thr Gln Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala Ser  
225 230 235 240

His Ile Thr Val Val Ser Ile Ala His Gly Ser Asn Ile Phe Val Tyr  
245 250 255

Val Arg Pro Asn Gln Asn Ser Ser Leu Asp Tyr Asp Lys Val Ala Ala  
260 265 270

Val Leu Ile Thr Val Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr Ser  
275 280 285

Leu Arg Asn Glu Lys Val Gln Glu Val Leu Arg Glu Thr Val Asn Arg  
290 295 300

Ile Met Thr Leu Ile Gln Arg Lys Thr  
305 310

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<220>  
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1 5 10 15

tca gcc ctg tcc act gag ctt cag gct cta ctg ttt ctc ctt ttc ttg 96  
Ser Ala Leu Ser Thr Glu Leu Gln Ala Leu Leu Phe Leu Leu Phe Leu  
20 25 30

acc att tac ttg gtt act tta atg ggc aat gtc ctc atc atc ctg gtc 144  
Thr Ile Tyr Leu Val Thr Leu Met Gly Asn Val Leu Ile Ile Leu Val  
35 40 45



act	ata	gct	gac	tct	gca	cta	caa	agt	cct	atg	tac	ttc	ttc	ctc	aga	192
Thr	Ile	Ala	Asp	Ser	Ala	Leu	Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Arg	
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aac	ttg	tcc	ttc	ctg	gag	ata	ggg	ttc	aac	ttg	gtc	att	gtg	ccc	aag	240
Asn	Leu	Ser	Phe	Leu	Glu	Ile	Gly	Phe	Asn	Leu	Val	Ile	Val	Pro	Lys	
65					70				75						80	
atg	ctg	ggg	acc	ctg	atc	att	caa	gac	aca	acc	atc	tcc	ttc	ctt	gga	288
Met	Leu	Gly	Thr	Leu	Ile	Ile	Gln	Asp	Thr	Thr	Ile	Ser	Phe	Leu	Gly	
				85					90					95		
tgt	gcc	act	cag	atg	tat	ttc	ttc	ttc	ttt	ttt	ggg	gct	gct	gag	tgc	336
Cys	Ala	Thr	Gln	Met	Tyr	Phe	Phe	Phe	Phe	Phe	Gly	Ala	Ala	Glu	Cys	
			100					105					110			
tgc	ctc	ctg	gcc	acc	atg	gca	tat	gac	cgc	tac	gtg	gcc	atc	tgt	gac	384
Cys	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asp	
			115				120					125				
ccc	ttg	cac	tac	cca	gtc	atc	atg	ggc	cac	ata	tcc	tgt	gcc	cag	ctg	432
Pro	Leu	His	Tyr	Pro	Val	Ile	Met	Gly	His	Ile	Ser	Cys	Ala	Gln	Leu	
	130					135					140					
gca	gct	gcc	tct	tgg	ttc	tca	ggg	ttt	tca	gtg	gcc	act	gtg	caa	acc	480
Ala	Ala	Ala	Ser	Trp	Phe	Ser	Gly	Phe	Ser	Val	Ala	Thr	Val	Gln	Thr	
145					150					155					160	
aca	tgg	att	ttc	agt	ttc	cct	ttt	tgt	ggc	ccc	aac	agg	gtg	aac	cac	528
Thr	Trp	Ile	Phe	Ser	Phe	Pro	Phe	Cys	Gly	Pro	Asn	Arg	Val	Asn	His	
				165					170					175		
ttc	ttc	tgt	gac	agc	cct	cct	gtt	att	gca	ctg	gtc	tgt	gct	gac	acc	576
Phe	Phe	Cys	Asp	Ser	Pro	Pro	Val	Ile	Ala	Leu	Val	Cys	Ala	Asp	Thr	
			180					185					190			
tct	gtg	ttt	gaa	ctg	gag	gct	ctg	aca	gcc	act	gtc	cca	ttc	att	ctc	624
Ser	Val	Phe	Glu	Leu	Glu	Ala	Leu	Thr	Ala	Thr	Val	Pro	Phe	Ile	Leu	
		195					200					205				
ttt	cct	ttc	ttg	ctg	atc	ctg	gga	tcc	tat	gtc	cgc	atc	ctc	tcc	act	672
Phe	Pro	Phe	Leu	Leu	Ile	Leu	Gly	Ser	Tyr	Val	Arg	Ile	Leu	Ser	Thr	
	210					215					220					
atc	ttc	agg	atg	ccg	tca	gct	gag	ggg	aaa	cat	cag	gca	ttc	tcc	acc	720
Ile	Phe	Arg	Met	Pro	Ser	Ala	Glu	Gly	Lys	His	Gln	Ala	Phe	Ser	Thr	
225					230					235					240	
tgt	tcc	gcc	cac	ctc	ttg	gtt	gtc	tct	ctc	ttc	tat	agc	act	gcc	atc	768
Cys	Ser	Ala	His	Leu	Leu	Val	Val	Ser	Leu	Phe	Tyr	Ser	Thr	Ala	Ile	
				245					250					255		
ctc	acg	tat	ttc	cga	ccc	caa	tcc	agt	gcc	tct	tct	gag	agc	aag	aag	816
Leu	Thr	Tyr	Phe	Arg	Pro	Gln	Ser	Ser	Ala	Ser	Ser	Glu	Ser	Lys	Lys	
			260				265						270			
ctg	ctg	tca	ctc	tct	tcc	aca	gtg	gtg	act	ccc	atg	ttg	aac	ccc	atc	864
Leu	Leu	Ser	Leu	Ser	Ser	Thr	Val	Val	Thr	Pro	Met	Leu	Asn	Pro	Ile	
		275					280					285				

atc tac agc tca agg aat aaa gaa gtg aag gct gca ctg aag cgg ctt 912  
 ile tyr ser ser arg asn lys glu val lys ala ala leu lys arg leu  
 290 295 300

atc cac agg acc ctg ggc tct cag aaa cta tga 945  
 ile his arg thr leu gly ser gln lys leu  
 305 310

<210> 132

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 132

Met Trp Glu Asn Trp Thr Ile Val Ser Glu Phe Val Leu Val Ser Phe  
 1 5 10 15

Ser Ala Leu Ser Thr Glu Leu Gln Ala Leu Leu Phe Leu Leu Phe Leu  
 20 25 30

Thr Ile Tyr Leu Val Thr Leu Met Gly Asn Val Leu Ile Ile Leu Val  
 35 40 45

Thr Ile Ala Asp Ser Ala Leu Gln Ser Pro Met Tyr Phe Phe Leu Arg  
 50 55 60

Asn Leu Ser Phe Leu Glu Ile Gly Phe Asn Leu Val Ile Val Pro Lys  
 65 70 75 80

Met Leu Gly Thr Leu Ile Ile Gln Asp Thr Thr Ile Ser Phe Leu Gly  
 85 90 95

Cys Ala Thr Gln Met Tyr Phe Phe Phe Phe Phe Gly Ala Ala Glu Cys  
 100 105 110

Cys Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asp  
 115 120 125

Pro Leu His Tyr Pro Val Ile Met Gly His Ile Ser Cys Ala Gln Leu  
 130 135 140

Ala Ala Ala Ser Trp Phe Ser Gly Phe Ser Val Ala Thr Val Gln Thr  
 145 150 155 160

Thr Trp Ile Phe Ser Phe Pro Phe Cys Gly Pro Asn Arg Val Asn His  
 165 170 175

Phe Phe Cys Asp Ser Pro Pro Val Ile Ala Leu Val Cys Ala Asp Thr

			180					185					190			
Ser	Val	Phe 195	Glu	Leu	Glu	Ala	Leu 200	Thr	Ala	Thr	Val	Pro 205	Phe	Ile	Leu	
Phe	Pro 210	Phe	Leu	Leu	Ile	Leu 215	Gly	Ser	Tyr	Val	Arg 220	Ile	Leu	Ser	Thr	
Ile 225	Phe	Arg	Met	Pro	Ser 230	Ala	Glu	Gly	Lys	His 235	Gln	Ala	Phe	Ser	Thr 240	
Cys	Ser	Ala	His 245	Leu	Leu	Val	Val	Ser	Leu 250	Phe	Tyr	Ser	Thr	Ala 255	Ile	
Leu	Thr	Tyr	Phe 260	Arg	Pro	Gln	Ser	Ser 265	Ala	Ser	Ser	Glu	Ser 270	Lys	Lys	
Leu	Leu 275	Ser	Leu	Ser	Ser	Thr	Val 280	Val	Thr	Pro	Met	Leu 285	Asn	Pro	Ile	
Ile 290	Tyr	Ser	Ser	Arg	Asn	Lys 295	Glu	Val	Lys	Ala	Ala 300	Leu	Lys	Arg	Leu	
Ile 305	His	Arg	Thr	Leu	Gly 310	Ser	Gln	Lys	Leu							

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<210> 133
<211> 939
<212> DNA
<213> Homo Sapiens
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<222> (1) .. (936)  
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Met	Glu	Arg	Val	Asn	Glu	Thr	Val	Val	Arg	Glu	Val	Ile	Phe	Leu	Gly	
1				5					10					15		
ttc	tca	tcc	ctg	gcc	agg	ctg	cag	cag	ctg	ctc	ttt	gtt	atc	ttc	ctg	96
Phe	Ser	Ser	Leu	Ala	Arg	Leu	Gln	Gln	Leu	Leu	Phe	Val	Ile	Phe	Leu	
			20					25					30			
ctc	ctc	tac	ctg	ttc	act	ctg	ggc	acc	aat	gca	atc	atc	att	tcc	acc	144
Leu	Leu	Tyr	Leu	Phe	Thr	Leu	Gly	Thr	Asn	Ala	Ile	Ile	Ile	Ser	Thr	
		35					40					45				
att	gtc	ctg	gac	agg	gcc	ctt	cat	atc	ccc	atg	tac	ttc	ttc	ctt	gcc	192
Ile	Val	Leu	Asp	Arg	Ala	Leu	His	Ile	Pro	Met	Tyr	Phe	Phe	Leu	Ala	

50	55	60	
atc ctc tct tgc tct gag att tgc tac acc ttc atc att gta ccc aag			240
Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys			
65	70	75	80
atg ctg gtt gac ctg ctg tcc cag aag aag acc att tct ttc ctg ggc			288
Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly			
	85	90	95
tgt gcc atc caa atg ttt tcc ttc ctc ttc ctt ggc tgc tct cac tcc			336
Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser			
	100	105	110
ttt ctg ctg gca gtc atg ggt tat gat cgt tac ata gcc atc tgt aac			384
Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn			
	115	120	125
cca ctg cgc tac tca gtg cta atg gga cat ggg gtg tgt atg gga cta			432
Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu			
	130	135	140
gtg gct gct gcc tgt gcc tgt ggc ttc act gtt gca cag atc atc aca			480
Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile Ile Thr			
145	150	155	160
tcc ttg gta ttt cac ctg cct ttt tat tcc tcc aat caa cta cat cac			528
Ser Leu Val Phe His Leu Pro Phe Tyr Ser Ser Asn Gln Leu His His			
	165	170	175
ttc ttc tgt gac att gct cct gtc ctc aag ctg gca tct cac cat aac			576
Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn			
	180	185	190
cac ttt agt cag att gtc atc ttc atg ctc tgt aca ttg gtc ctg gct			624
His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala			
	195	200	205
atc ccc tta ttg ttg atc ttg gtg tcc tat gtt cac atc ctc tct gcc			672
Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala			
	210	215	220
ata ctt cag ttt cct tcc aca ctg ggt agg tgc aaa gct ttt tct acc			720
Ile Leu Gln Phe Pro Ser Thr Leu Gly Arg Cys Lys Ala Phe Ser Thr			
225	230	235	240
tgt gta tct cac ctc att att gtc act gtc cac tat ggc tgt gcc tcc			768
Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys Ala Ser			
	245	250	255
ttt atc tac tta agg cct cag tcc aac tac tcc tca agc cag gat gct			816
Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala			
	260	265	270
cta ata tca gta tcc tac act att ata act cca ttg ttc aac cca atg			864
Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn Pro Met			
	275	280	285
att tat agc ttg aga aat aaa gag ttc aaa tca gct ctt tgt aaa att			912
Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile			
	290	295	300

gtg aga aga aca att tcc ctg ttg taa  
 Val Arg Arg Thr Ile Ser Leu Leu  
 305 310

939

<210> 134  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 134

Met Glu Arg Val Asn Glu Thr Val Val Arg Glu Val Ile Phe Leu Gly  
 1 5 10 15

Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
 20 25 30

Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
 35 40 45

Ile Val Leu Asp Arg Ala Leu His Ile Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys  
 65 70 75 80

Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly  
 85 90 95

Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser  
 100 105 110

Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn  
 115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu  
 130 135 140

Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile Ile Thr  
 145 150 155 160

Ser Leu Val Phe His Leu Pro Phe Tyr Ser Ser Asn Gln Leu His His  
 165 170 175

Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn  
 180 185 190

His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala  
 195 200 205

Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala  
 210 215 220

Ile Leu Gln Phe Pro Ser Thr Leu Gly Arg Cys Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys Ala Ser  
 245 250 255

Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala  
 260 265 270

Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn Pro Met  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile  
 290 295 300

Val Arg Arg Thr Ile Ser Leu Leu  
 305 310

<210> 135  
 <211> 930  
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 <213> Homo Sapiens

<220>  
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 <222> (1)..(927)  
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<400> 135  
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 Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro  
 1 5 10 15  
 ttc tca cct gac cct gag gtc cag atg ctg att ttt gtg gtc ttc ctg 96  
 Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu  
 20 25 30  
 atg atg tat ctg acc agc ctc ggt gga aat gct aca att gca gtc att 144  
 Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile  
 35 40 45  
 gtt cag atc aat cat tcc ctc cac acc ccc atg tac ttt ttc ctg gct 192  
 Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60  
 aat ctg gca gtt cta gaa atc ttc tat aca tct tcc atc acc cca ttg 240

Asn	Leu	Ala	Val	Leu	Glu	Ile	Phe	Tyr	Thr	Ser	Ser	Ile	Thr	Pro	Leu	
65					70					75					80	
gcc	ttg	gca	aac	ctc	ctt	tca	atg	ggc	aaa	act	cct	gtt	tcc	atc	acg	288
Ala	Leu	Ala	Asn	Leu	Leu	Ser	Met	Gly	Lys	Thr	Pro	Val	Ser	Ile	Thr	
			85					90					95			
gga	tgt	ggc	acc	cag	atg	ttt	ttc	ttt	gtc	ttc	ttg	ggg	ggt	gat		336
Gly	Cys	Gly	Thr	Gln	Met	Phe	Phe	Phe	Val	Phe	Leu	Gly	Gly	Ala	Asp	
			100					105					110			
tgt	gtc	ctg	ctg	gta	gtc	atg	gct	tat	gac	cgg	ttt	ata	gcg	atc	tgt	384
Cys	Val	Leu	Leu	Val	Val	Met	Ala	Tyr	Asp	Arg	Phe	Ile	Ala	Ile	Cys	
		115					120					125				
cac	cct	ctg	cga	tac	agg	ctc	atc	atg	agc	tgg	tcc	ttg	tgt	gtg	gag	432
His	Pro	Leu	Arg	Tyr	Arg	Leu	Ile	Met	Ser	Trp	Ser	Leu	Cys	Val	Glu	
	130					135					140					
ctg	ctg	gta	ggc	tcc	ttg	gtg	ctg	ggg	ttc	ctg	ttg	tca	ctg	cca	ctc	480
Leu	Leu	Val	Gly	Ser	Leu	Val	Leu	Gly	Phe	Leu	Leu	Ser	Leu	Pro	Leu	
145					150				155						160	
acc	att	tta	atc	ttc	cat	ctc	cca	ttc	tgc	cac	aat	gat	gag	atc	tac	528
Thr	Ile	Leu	Ile	Phe	His	Leu	Pro	Phe	Cys	His	Asn	Asp	Glu	Ile	Tyr	
			165						170					175		
cac	ttc	tac	tgt	gac	atg	cct	gca	gtc	atg	cgc	ctg	gct	tgt	gca	gac	576
His	Phe	Tyr	Cys	Asp	Met	Pro	Ala	Val	Met	Arg	Leu	Ala	Cys	Ala	Asp	
			180					185					190			
aca	cgc	gtt	cac	aag	act	gct	ctg	tat	atc	atc	agc	ttc	atc	gtc	ctt	624
Thr	Arg	Val	His	Lys	Thr	Ala	Leu	Tyr	Ile	Ile	Ser	Phe	Ile	Val	Leu	
		195					200					205				
agc	atc	ccc	ctc	tca	ttg	atc	tcc	atc	tcc	tat	gtc	ttc	atc	gtg	gta	672
Ser	Ile	Pro	Leu	Ser	Leu	Ile	Ser	Ile	Ser	Tyr	Val	Phe	Ile	Val	Val	
	210					215					220					
gcc	att	tta	cgg	atc	cgg	tca	gca	gaa	ggg	cgc	cag	caa	gcc	tac	tct	720
Ala	Ile	Leu	Arg	Ile	Arg	Ser	Ala	Glu	Gly	Arg	Gln	Gln	Ala	Tyr	Ser	
225					230					235					240	
acc	tgc	tct	tct	cac	atc	tta	gtg	gtc	ctc	ctg	cag	tat	ggc	tgc	acc	768
Thr	Cys	Ser	Ser	His	Ile	Leu	Val	Val	Leu	Leu	Gln	Tyr	Gly	Cys	Thr	
				245					250					255		
agc	ttt	ata	tac	ttg	tcc	ccc	agt	tcc	agc	tac	tct	cct	gag	atg	ggc	816
Ser	Phe	Ile	Tyr	Leu	Ser	Pro	Ser	Ser	Ser	Tyr	Ser	Pro	Glu	Met	Gly	
			260					265					270			
cgg	gtg	gta	tct	gtg	gcc	tac	aca	ttt	atc	act	ccc	att	tta	aac	ccc	864
Arg	Val	Val	Ser	Val	Ala	Tyr	Thr	Phe	Ile	Thr	Pro	Ile	Leu	Asn	Pro	
		275					280					285				
ttg	atc	tat	agt	ttg	agg	aac	aag	gaa	ctg	aaa	gat	gcc	cta	agg	aaa	912
Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Leu	Lys	Asp	Ala	Leu	Arg	Lys	
	290					295					300					
gca	ttg	aga	aaa	ttc	tag											930
Ala	Leu	Arg	Lys	Phe												

305

<210> 136  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 136

Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro  
 1 5 10 15

Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu  
 20 25 30

Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile  
 35 40 45

Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu  
 65 70 75 80

Ala Leu Ala Asn Leu Leu Ser Met Gly Lys Thr Pro Val Ser Ile Thr  
 85 90 95

Gly Cys Gly Thr Gln Met Phe Phe Phe Val Phe Leu Gly Gly Ala Asp  
 100 105 110

Cys Val Leu Leu Val Val Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Arg Leu Ile Met Ser Trp Ser Leu Cys Val Glu  
 130 135 140

Leu Leu Val Gly Ser Leu Val Leu Gly Phe Leu Leu Ser Leu Pro Leu  
 145 150 155 160

Thr Ile Leu Ile Phe His Leu Pro Phe Cys His Asn Asp Glu Ile Tyr  
 165 170 175

His Phe Tyr Cys Asp Met Pro Ala Val Met Arg Leu Ala Cys Ala Asp  
 180 185 190

Thr Arg Val His Lys Thr Ala Leu Tyr Ile Ile Ser Phe Ile Val Leu  
 195 200 205



Ser Ile Pro Leu Ser Leu Ile Ser Ile Ser Tyr Val Phe Ile Val Val  
 210 215 220

Ala Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Gln Ala Tyr Ser  
 225 230 235 240

Thr Cys Ser Ser His Ile Leu Val Val Leu Leu Gln Tyr Gly Cys Thr  
 245 250 255

Ser Phe Ile Tyr Leu Ser Pro Ser Ser Ser Tyr Ser Pro Glu Met Gly  
 260 265 270

Arg Val Val Ser Val Ala Tyr Thr Phe Ile Thr Pro Ile Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu Leu Lys Asp Ala Leu Arg Lys  
 290 295 300

Ala Leu Arg Lys Phe  
 305

<210> 137  
 <211> 892  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (891)  
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Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro	
1 5 10 15	
ttc tca cct gac cct gag gtc cag atg ctg att ttt gtg gtc ttc ctg	96
Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu	
20 25 30	
atg atg tat ctg acc agc ctc ggt gga aat gct aca att gca gtc att	144
Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile	
35 40 45	
gtt cag atc aat cat tcc ctc cac acc ccc atg tac ttt ttc ctg gct	192
Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala	
50 55 60	
aat ctg gca gtt cta gaa atc ttc tat aca tct tcc atc acc cca ttg	240
Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu	
65 70 75 80	

gcc ttg gca aac ctc ctt tca atg ggc aaa act cct gtt tcc atc acg 288  
 Ala Leu Ala Asn Leu Leu Ser Met Gly Lys Thr Pro Val Ser Ile Thr  
 85 90 95

gga tgt ggc acc cag atg ttt ttc ttt gtc ttc ttg ggt ggg gct gat 336  
 Gly Cys Gly Thr Gln Met Phe Phe Phe Val Phe Leu Gly Gly Ala Asp  
 100 105 110

tgt gtc ctg ctg gta gtc atg gct tat gac cag ttt ata gcg atc tgt 384  
 Cys Val Leu Leu Val Val Met Ala Tyr Asp Gln Phe Ile Ala Ile Cys  
 115 120 125

cac cct ctg cga tac agg ctc atc atg agc tgg tcc ttg tgt gtg gag 432  
 His Pro Leu Arg Tyr Arg Leu Ile Met Ser Trp Ser Leu Cys Val Glu  
 130 135 140

ctg ctg gta ggc tcc ttg gtg ctg ggg ttc ctg ttg tca ctg cca ctc 480  
 Leu Leu Val Gly Ser Leu Val Leu Gly Phe Leu Leu Ser Leu Pro Leu  
 145 150 155 160

acc att tta atc ttc cat ctc cca ttc tgc cac aat gat gag atc tac 528  
 Thr Ile Leu Ile Phe His Leu Pro Phe Cys His Asn Asp Glu Ile Tyr  
 165 170 175

cac ttc tac tgt gac atg cct gca gtc atg cgc ctg gct tgt gca gac 576  
 His Phe Tyr Cys Asp Met Pro Ala Val Met Arg Leu Ala Cys Ala Asp  
 180 185 190

aca cgc gtt cac aag act gct ctg tat atc atc agc ttc atc gtc ctt 624  
 Thr Arg Val His Lys Thr Ala Leu Tyr Ile Ile Ser Phe Ile Val Leu  
 195 200 205

agc atc ccc ctc tca ttg atc tcc atc tcc tat gtc ttc atc gtg gta 672  
 Ser Ile Pro Leu Ser Leu Ile Ser Ile Ser Tyr Val Phe Ile Val Val  
 210 215 220

gcc att tta cgg atc cgg tca gca gaa ggg cgc cag caa gcc tac tct 720  
 Ala Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Gln Ala Tyr Ser  
 225 230 235 240

acc tgc tct tct cac atc tta gtg gtc ctc ctg cag tat ggc tgc acc 768  
 Thr Cys Ser Ser His Ile Leu Val Val Leu Leu Gln Tyr Gly Cys Thr  
 245 250 255

agc ttt ata tac ttg tcc ccc agt tcc agc tac tct cct gag atg ggc 816  
 Ser Phe Ile Tyr Leu Ser Pro Ser Ser Ser Tyr Ser Pro Glu Met Gly  
 260 265 270

cgg gtg gta tct gtg gcc tac aca ttt atc act ccc att tta aac ccc 864  
 Arg Val Val Ser Val Ala Tyr Thr Phe Ile Thr Pro Ile Leu Asn Pro  
 275 280 285

ttg atc tat agt ttg agg aac aag gaa c 892  
 Leu Ile Tyr Ser Leu Arg Asn Lys Glu  
 290 295

<210> 138  
 <211> 297  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 138

Met Glu Gly Ile Asn Lys Thr Ala Lys Met Gln Phe Phe Phe Arg Pro  
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Phe Ser Pro Asp Pro Glu Val Gln Met Leu Ile Phe Val Val Phe Leu  
 20 25 30

Met Met Tyr Leu Thr Ser Leu Gly Gly Asn Ala Thr Ile Ala Val Ile  
 35 40 45

Val Gln Ile Asn His Ser Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Asn Leu Ala Val Leu Glu Ile Phe Tyr Thr Ser Ser Ile Thr Pro Leu  
 65 70 75 80

Ala Leu Ala Asn Leu Leu Ser Met Gly Lys Thr Pro Val Ser Ile Thr  
 85 90 95

Gly Cys Gly Thr Gln Met Phe Phe Phe Val Phe Leu Gly Gly Ala Asp  
 100 105 110

Cys Val Leu Leu Val Val Met Ala Tyr Asp Gln Phe Ile Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Arg Leu Ile Met Ser Trp Ser Leu Cys Val Glu  
 130 135 140

Leu Leu Val Gly Ser Leu Val Leu Gly Phe Leu Leu Ser Leu Pro Leu  
 145 150 155 160

Thr Ile Leu Ile Phe His Leu Pro Phe Cys His Asn Asp Glu Ile Tyr  
 165 170 175

His Phe Tyr Cys Asp Met Pro Ala Val Met Arg Leu Ala Cys Ala Asp  
 180 185 190

Thr Arg Val His Lys Thr Ala Leu Tyr Ile Ile Ser Phe Ile Val Leu  
 195 200 205

Ser Ile Pro Leu Ser Leu Ile Ser Ile Ser Tyr Val Phe Ile Val Val  
 210 215 220

Ala Ile Leu Arg Ile Arg Ser Ala Glu Gly Arg Gln Gln Ala Tyr Ser  
 225 230 235 240

Thr Cys Ser Ser His Ile Leu Val Val Leu Leu Gln Tyr Gly Cys Thr  
 245 250 255

Ser Phe Ile Tyr Leu Ser Pro Ser Ser Ser Tyr Ser Pro Glu Met Gly  
 260 265 270

Arg Val Val Ser Val Ala Tyr Thr Phe Ile Thr Pro Ile Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu  
 290 295

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 <213> Homo Sapiens

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 <222> (1) .. (948)  
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 atg gtt gaa gaa aat cat acc atg aaa aat gag ttt atc ctc aca gga 48  
 Met Val Glu Glu Asn His Thr Met Lys Asn Glu Phe Ile Leu Thr Gly  
 1 5 10 15  
 ttt aca gat cac cct gag ctg aag act ctg ctg ttt gtg gtg ttc ttt 96  
 Phe Thr Asp His Pro Glu Leu Lys Thr Leu Leu Phe Val Val Phe Phe  
 20 25 30  
 gcc atc tat ctg atc acc gtg gtg ggg aat att agt ttg gtg gca ctg 144  
 Ala Ile Tyr Leu Ile Thr Val Val Gly Asn Ile Ser Leu Val Ala Leu  
 35 40 45  
 ata ttt aca cac tgt cgg ctt cac aca cca atg tac atc ttt ctg gga 192  
 Ile Phe Thr His Cys Arg Leu His Thr Pro Met Tyr Ile Phe Leu Gly  
 50 55 60  
 aat ctg gct ctt gtg gat tct tgc tgt gcc tgt gct att acc ccc aaa 240  
 Asn Leu Ala Leu Val Asp Ser Cys Cys Ala Cys Ala Ile Thr Pro Lys  
 65 70 75 80  
 atg tta gag aac ttc ttt tct gag ggc aaa agg att tcc ctc tat gaa 288  
 Met Leu Glu Asn Phe Phe Ser Glu Gly Lys Arg Ile Ser Leu Tyr Glu  
 85 90 95  
 tgt gca gta cag ttt tat ttt ctt tgc act gtg gaa act gca gac tgc 336  
 Cys Ala Val Gln Phe Tyr Phe Leu Cys Thr Val Glu Thr Ala Asp Cys  
 100 105 110  
 ttt ctt ctg gca gca gtg gcc tat gac cgc tat gtg gcc atc tgc aac 384  
 Phe Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

cca ctg cag tac cac atc atg atg tcc aag aaa ctc tgc att cag atg 432  
 Pro Leu Gln Tyr His Ile Met Met Ser Lys Lys Leu Cys Ile Gln Met  
 130 135 140

acc aca ggc gcc ttc ata gct gga aat ctg cat tcc atg att cat gta 480  
 Thr Thr Gly Ala Phe Ile Ala Gly Asn Leu His Ser Met Ile His Val  
 145 150 155 160

ggg ctt gta ttt agg tta gtt ttc tgt gga ttg aat cac atc aac cac 528  
 Gly Leu Val Phe Arg Leu Val Phe Cys Gly Leu Asn His Ile Asn His  
 165 170 175

ttt tac tgt gat act ctt ccc ttg tat aga ctc tcc tgt gtt gac cct 576  
 Phe Tyr Cys Asp Thr Leu Pro Leu Tyr Arg Leu Ser Cys Val Asp Pro  
 180 185 190

ttc atc aat gaa ctg gtt cta ttc atc ttc tca ggt tca gtt caa gtc 624  
 Phe Ile Asn Glu Leu Val Leu Phe Ile Phe Ser Gly Ser Val Gln Val  
 195 200 205

ttt acc ata ggt agt gtc tta ata tct tat ctc tat att ctt ctt act 672  
 Phe Thr Ile Gly Ser Val Leu Ile Ser Tyr Leu Tyr Ile Leu Leu Thr  
 210 215 220

att ttc aga atg aaa tcc aag gag gga agg gcc aaa gcc ttt tct act 720  
 Ile Phe Arg Met Lys Ser Lys Glu Gly Arg Ala Lys Ala Phe Ser Thr  
 225 230 235 240

tgt gca tcc cac ttt tca tca gtt tca tta ttc tat gga tct att ttt 768  
 Cys Ala Ser His Phe Ser Ser Val Ser Leu Phe Tyr Gly Ser Ile Phe  
 245 250 255

ttc cta tac att aga cca aat ttg ctt gaa gaa gga ggt aat gat ata 816  
 Phe Leu Tyr Ile Arg Pro Asn Leu Leu Glu Glu Gly Gly Asn Asp Ile  
 260 265 270

cca gct gct att tta ttt aca ata gta gtt ccc tta cta aat cct ttc 864  
 Pro Ala Ala Ile Leu Phe Thr Ile Val Val Pro Leu Leu Asn Pro Phe  
 275 280 285

att tat agt ctg aga aac aag gaa gta ata agt gtc tta aga aaa att 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Val Ile Ser Val Leu Arg Lys Ile  
 290 295 300

ctg ctg aaa ata aaa tct caa gga agt gtg aac aaa tga 951  
 Leu Leu Lys Ile Lys Ser Gln Gly Ser Val Asn Lys  
 305 310 315

&lt;210&gt; 140

&lt;211&gt; 316

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 140

Met Val Glu Glu Asn His Thr Met Lys Asn Glu Phe Ile Leu Thr Gly  
 1 5 10 15

Phe Thr Asp His Pro Glu Leu Lys Thr Leu Leu Phe Val Val Phe Phe  
 20 25 30

Ala Ile Tyr Leu Ile Thr Val Val Gly Asn Ile Ser Leu Val Ala Leu  
 35 40 45

Ile Phe Thr His Cys Arg Leu His Thr Pro Met Tyr Ile Phe Leu Gly  
 50 55 60

Asn Leu Ala Leu Val Asp Ser Cys Cys Ala Cys Ala Ile Thr Pro Lys  
 65 70 75 80

Met Leu Glu Asn Phe Phe Ser Glu Gly Lys Arg Ile Ser Leu Tyr Glu  
 85 90 95

Cys Ala Val Gln Phe Tyr Phe Leu Cys Thr Val Glu Thr Ala Asp Cys  
 100 105 110

Phe Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Leu Gln Tyr His Ile Met Met Ser Lys Lys Leu Cys Ile Gln Met  
 130 135 140

Thr Thr Gly Ala Phe Ile Ala Gly Asn Leu His Ser Met Ile His Val  
 145 150 155 160

Gly Leu Val Phe Arg Leu Val Phe Cys Gly Leu Asn His Ile Asn His  
 165 170 175

Phe Tyr Cys Asp Thr Leu Pro Leu Tyr Arg Leu Ser Cys Val Asp Pro  
 180 185 190

Phe Ile Asn Glu Leu Val Leu Phe Ile Phe Ser Gly Ser Val Gln Val  
 195 200 205

Phe Thr Ile Gly Ser Val Leu Ile Ser Tyr Leu Tyr Ile Leu Leu Thr  
 210 215 220

Ile Phe Arg Met Lys Ser Lys Glu Gly Arg Ala Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Phe Ser Ser Val Ser Leu Phe Tyr Gly Ser Ile Phe  
 245 250 255

Phe Leu Tyr Ile Arg Pro Asn Leu Leu Glu Glu Gly Gly Asn Asp Ile

260	265	270	
Pro Ala Ala Ile Leu Phe Thr Ile Val Val Pro Leu Leu Asn Pro Phe			
275	280	285	
Ile Tyr Ser Leu Arg Asn Lys Glu Val Ile Ser Val Leu Arg Lys Ile			
290	295	300	
Leu Leu Lys Ile Lys Ser Gln Gly Ser Val Asn Lys			
305	310	315	
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Met Asp Gln Lys Asn Gly Ser Ser Phe Thr Gly Phe Ile Leu Leu Gly			
1	5	10	15
ttc tct gac agg cct cag ctg gag cta gtc ctc ttt gtg gtt ctt ttg			96
Phe Ser Asp Arg Pro Gln Leu Glu Leu Val Leu Phe Val Val Leu Leu			
20	25	30	
atc ttc tat atc ttc act ttg ctg ggg aac aaa acc atc att gta tta			144
Ile Phe Tyr Ile Phe Thr Leu Leu Gly Asn Lys Thr Ile Ile Val Leu			
35	40	45	
tct cac ttg gac cca cat ctt cac act cct atg tat ttt ttc ttc tcc			192
Ser His Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Phe Ser			
50	55	60	
aac cta agc ttt ttg gat ctg tgt tac aca acc ggc att gtt cca cag			240
Asn Leu Ser Phe Leu Asp Leu Cys Tyr Thr Thr Gly Ile Val Pro Gln			
65	70	75	80
ctc ctg gtt aat ctc agg gga gca gac aaa tca atc tcc tat ggt ggt			288
Leu Leu Val Asn Leu Arg Gly Ala Asp Lys Ser Ile Ser Tyr Gly Gly			
85	90	95	
tgt gta gtt cag ctg tac atc tct cta ggc ttg gga tct aca gaa tgc			336
Cys Val Val Gln Leu Tyr Ile Ser Leu Gly Leu Gly Ser Thr Glu Cys			
100	105	110	
gtt ctt ttt tta gtg atg gta ttt gac cgc tat gca gct gtt tgc agg			384
Val Leu Phe Leu Val Met Val Phe Asp Arg Tyr Ala Ala Val Cys Arg			
115	120	125	
ccc ctc cac tac aca gta gtc atg cac cct tgt ctg tat gtg ctg atg			432
Pro Leu His Tyr Thr Val Val Met His Pro Cys Leu Tyr Val Leu Met			

130	135	140	
gct tct act tca tgg gtc att ggt ttt gcc aac tcc cta ttg cag acg			480
Ala Ser Thr Ser Trp Val Ile Gly Phe Ala Asn Ser Leu Leu Gln Thr			
145	150	155	160
gtg ctc atc ttg ctt tta aca ctt tgt gga aga aat aaa tta gaa cac			528
Val Leu Ile Leu Leu Leu Thr Leu Cys Gly Arg Asn Lys Leu Glu His			
	165	170	175
ttt ctt tgt gag gtt cct cca ttg ctc aag ctt gcc tgt gtt gac act			576
Phe Leu Cys Glu Val Pro Pro Leu Leu Lys Leu Ala Cys Val Asp Thr			
	180	185	190
act atg aat gaa tct gaa ctc ttc ttt gtc agt gtc att att ctt ctt			624
Thr Met Asn Glu Ser Glu Leu Phe Phe Val Ser Val Ile Ile Leu Leu			
	195	200	205
gta cct gtt gca tta atc ata ttc tcc tat agt cag att gtc agg gca			672
Val Pro Val Ala Leu Ile Ile Phe Ser Tyr Ser Gln Ile Val Arg Ala			
	210	215	220
gtc atg agg ata aag tta gca aca ggg cag aga aaa gtg ttt ggg aca			720
Val Met Arg Ile Lys Leu Ala Thr Gly Gln Arg Lys Val Phe Gly Thr			
	225	230	235
tgt ggc tcc cac ctc aca gtg gtt tcc ctg ttc tac ggc aca gct atc			768
Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Thr Ala Ile			
	245	250	255
tat gct tac ctc cag ccc ggc aac aac tac tct cag gat cag ggc aag			816
Tyr Ala Tyr Leu Gln Pro Gly Asn Asn Tyr Ser Gln Asp Gln Gly Lys			
	260	265	270
ttc atc tct ctc ttc tac acc atc att aca ccc atg atc aac ccc ctc			864
Phe Ile Ser Leu Phe Tyr Thr Ile Ile Thr Pro Met Ile Asn Pro Leu			
	275	280	285
ata tat aca ctg agg aac aag gat gtg aaa gga gca ctt aag aag gtg			912
Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Lys Lys Val			
	290	295	300
ctc tgg aag aac tac gac tcc aga tga			939
Leu Trp Lys Asn Tyr Asp Ser Arg			
305	310		
<210> 142			
<211> 312			
<212> PRT			
<213> Homo Sapiens			
<400> 142			
Met Asp Gln Lys Asn Gly Ser Ser Phe Thr Gly Phe Ile Leu Leu Gly			
1	5	10	15
Phe Ser Asp Arg Pro Gln Leu Glu Leu Val Leu Phe Val Val Leu Leu			
20	25	30	



Ile Phe Tyr Ile Phe Thr Leu Leu Gly Asn Lys Thr Ile Ile Val Leu  
 35 40 45  
 Ser His Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Phe Ser  
 50 55 60  
 Asn Leu Ser Phe Leu Asp Leu Cys Tyr Thr Thr Gly Ile Val Pro Gln  
 65 70 75 80  
 Leu Leu Val Asn Leu Arg Gly Ala Asp Lys Ser Ile Ser Tyr Gly Gly  
 85 90 95  
 Cys Val Val Gln Leu Tyr Ile Ser Leu Gly Leu Gly Ser Thr Glu Cys  
 100 105 110  
 Val Leu Phe Leu Val Met Val Phe Asp Arg Tyr Ala Ala Val Cys Arg  
 115 120 125  
 Pro Leu His Tyr Thr Val Val Met His Pro Cys Leu Tyr Val Leu Met  
 130 135 140  
 Ala Ser Thr Ser Trp Val Ile Gly Phe Ala Asn Ser Leu Leu Gln Thr  
 145 150 155 160  
 Val Leu Ile Leu Leu Leu Thr Leu Cys Gly Arg Asn Lys Leu Glu His  
 165 170 175  
 Phe Leu Cys Glu Val Pro Pro Leu Leu Lys Leu Ala Cys Val Asp Thr  
 180 185 190  
 Thr Met Asn Glu Ser Glu Leu Phe Phe Val Ser Val Ile Ile Leu Leu  
 195 200 205  
 Val Pro Val Ala Leu Ile Ile Phe Ser Tyr Ser Gln Ile Val Arg Ala  
 210 215 220  
 Val Met Arg Ile Lys Leu Ala Thr Gly Gln Arg Lys Val Phe Gly Thr  
 225 230 235 240  
 Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Thr Ala Ile  
 245 250 255  
 Tyr Ala Tyr Leu Gln Pro Gly Asn Asn Tyr Ser Gln Asp Gln Gly Lys  
 260 265 270

Phe Ile Ser Leu Phe Tyr Thr Ile Ile Thr Pro Met Ile Asn Pro Leu  
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Lys Lys Val  
 290 295 300

Leu Trp Lys Asn Tyr Asp Ser Arg  
 305 310

<210> 143  
 <211> 924  
 <212> DNA  
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<220>  
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<400> 143  
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 Met Asn His Ser Val Val Thr Glu Phe Ile Ile Leu Gly Leu Thr Lys  
 1 5 10 15  
 aag cct gaa ctc cag gga att atc ttc ctc ttt ttt ctc att gtc tat 96  
 Lys Pro Glu Leu Gln Gly Ile Ile Phe Leu Phe Phe Leu Ile Val Tyr  
 20 25 30  
 ctt gtg gct ttt ctc ggc aac atg ctc atc atc att gcc aaa atc tat 144  
 Leu Val Ala Phe Leu Gly Asn Met Leu Ile Ile Ile Ala Lys Ile Tyr  
 35 40 45  
 aac aac acc ttg cat acg ccc atg tat gtt ttc ctt ctg aca ctg gct 192  
 Asn Asn Thr Leu His Thr Pro Met Tyr Val Phe Leu Leu Thr Leu Ala  
 50 55 60  
 gtt gtg gac atc atc tgc aca aca agc atc ata ccg aag atg ctg ggg 240  
 Val Val Asp Ile Ile Cys Thr Thr Ser Ile Ile Pro Lys Met Leu Gly  
 65 70 75 80  
 acc atg cta aca tca gaa aat acc att tca tat gca ggc tgc atg tcc 288  
 Thr Met Leu Thr Ser Glu Asn Thr Ile Ser Tyr Ala Gly Cys Met Ser  
 85 90 95  
 cag ctc ttc ttg ttc aca tgg tct ctg gga gct gag atg gtt ctc ttc 336  
 Gln Leu Phe Leu Phe Thr Trp Ser Leu Gly Ala Glu Met Val Leu Phe  
 100 105 110  
 acc acc atg gcc tat gac cgc tat gtg gcc att tgt ttc cct ctt cat 384  
 Thr Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu His  
 115 120 125  
 tac agt act gtt atg aac cac cat atg tgt gta gcc ttg ctc agc atg 432  
 Tyr Ser Thr Val Met Asn His His Met Cys Val Ala Leu Leu Ser Met  
 130 135 140  
 gtc atg gct att gca gtc acc aat tcc tgg gtg cac aca gct ctt atc 480

Val Met Ala Ile Ala Val Thr Asn Ser Trp Val His Thr Ala Leu Ile	
145 150 155 160	
atg agg ttg act ttc tgt ggg cca aac acc att gac cac ttc ttc tgt	528
Met Arg Leu Thr Phe Cys Gly Pro Asn Thr Ile Asp His Phe Phe Cys	
165 170 175	
gag ata ccc cca ttg ctg gct ttg tcc tgt agc cct gta aga atc aat	576
Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Pro Val Arg Ile Asn	
180 185 190	
gag gtg atg gtg tat gtt gct gat att acc ctg gcc ata ggg gac ttt	624
Glu Val Met Val Tyr Val Ala Asp Ile Thr Leu Ala Ile Gly Asp Phe	
195 200 205	
att ctt acc tgc atc tcc tat ggt ttt atc att gtt gct att ctc cgt	672
Ile Leu Thr Cys Ile Ser Tyr Gly Phe Ile Ile Val Ala Ile Leu Arg	
210 215 220	
atc cgc aca gta gaa ggc aag agg aag gcc ttc tca aca tgc tca tct	720
Ile Arg Thr Val Glu Gly Lys Arg Lys Ala Phe Ser Thr Cys Ser Ser	
225 230 235 240	
cat ctc aca gtg gtg acc ctt tac tat tct cct gta atc tac acc tat	768
His Leu Thr Val Val Thr Leu Tyr Tyr Ser Pro Val Ile Tyr Thr Tyr	
245 250 255	
atc cgc cct gct tcc agc tat aca ttt gaa aga gac aag gtg gta gct	816
Ile Arg Pro Ala Ser Ser Tyr Thr Phe Glu Arg Asp Lys Val Val Ala	
260 265 270	
gca ctc tat act ctt gtg act ccc aca tta aac ccg atg gtg tac agc	864
Ala Leu Tyr Thr Leu Val Thr Pro Thr Leu Asn Pro Met Val Tyr Ser	
275 280 285	
ttc cag aat agg gag atg cag gca gga att agg aag gtg ttt gca ttt	912
Phe Gln Asn Arg Glu Met Gln Ala Gly Ile Arg Lys Val Phe Ala Phe	
290 295 300	
ctg aaa cac tag	924
Leu Lys His	
305	
<210> 144	
<211> 307	
<212> PRT	
<213> Homo Sapiens	
<400> 144	
Met Asn His Ser Val Val Thr Glu Phe Ile Ile Leu Gly Leu Thr Lys	
1 5 10 15	
Lys Pro Glu Leu Gln Gly Ile Ile Phe Leu Phe Phe Leu Ile Val Tyr	
20 25 30	
Leu Val Ala Phe Leu Gly Asn Met Leu Ile Ile Ile Ala Lys Ile Tyr	
35 40 45	

Asn Asn Thr Leu His Thr Pro Met Tyr Val Phe Leu Leu Thr Leu Ala  
 50 55 60

Val Val Asp Ile Ile Cys Thr Thr Ser Ile Ile Pro Lys Met Leu Gly  
 65 70 75 80

Thr Met Leu Thr Ser Glu Asn Thr Ile Ser Tyr Ala Gly Cys Met Ser  
 85 90 95

Gln Leu Phe Leu Phe Thr Trp Ser Leu Gly Ala Glu Met Val Leu Phe  
 100 105 110

Thr Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Leu His  
 115 120 125

Tyr Ser Thr Val Met Asn His His Met Cys Val Ala Leu Leu Ser Met  
 130 135 140

Val Met Ala Ile Ala Val Thr Asn Ser Trp Val His Thr Ala Leu Ile  
 145 150 155 160

Met Arg Leu Thr Phe Cys Gly Pro Asn Thr Ile Asp His Phe Phe Cys  
 165 170 175

Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Pro Val Arg Ile Asn  
 180 185 190

Glu Val Met Val Tyr Val Ala Asp Ile Thr Leu Ala Ile Gly Asp Phe  
 195 200 205

Ile Leu Thr Cys Ile Ser Tyr Gly Phe Ile Ile Val Ala Ile Leu Arg  
 210 215 220

Ile Arg Thr Val Glu Gly Lys Arg Lys Ala Phe Ser Thr Cys Ser Ser  
 225 230 235 240

His Leu Thr Val Val Thr Leu Tyr Tyr Ser Pro Val Ile Tyr Thr Tyr  
 245 250 255

Ile Arg Pro Ala Ser Ser Tyr Thr Phe Glu Arg Asp Lys Val Val Ala  
 260 265 270

Ala Leu Tyr Thr Leu Val Thr Pro Thr Leu Asn Pro Met Val Tyr Ser  
 275 280 285

Phe Gln Asn Arg Glu Met Gln Ala Gly Ile Arg Lys Val Phe Ala Phe  
 290 295 300

Leu Lys His  
 305

<210> 145  
 <211> 948  
 <212> DNA  
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<220>  
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 <222> (1) .. (945)  
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<400> 145  
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 Met Thr Asn Gln Thr Gln Met Met Glu Phe Leu Leu Val Arg Phe Thr  
 1 5 10 15  
 gag aat tgg gtg ctc ctg agg ctg cat gct ttg ctc ttc tca ctg atc 96  
 Glu Asn Trp Val Leu Leu Arg Leu His Ala Leu Leu Phe Ser Leu Ile  
 20 25 30  
 tac ctc acg gct gtg ctg atg aat tta gtc atc att ctc ctc atg att 144  
 Tyr Leu Thr Ala Val Leu Met Asn Leu Val Ile Ile Leu Leu Met Ile  
 35 40 45  
 ctg gac cat cgt ctc cac atg gca atg tac ttt ttc ctc cga cat ttg 192  
 Leu Asp His Arg Leu His Met Ala Met Tyr Phe Phe Leu Arg His Leu  
 50 55 60  
 tcc ttc tta gac ctg tgt ctc att tct gcc aca gtc ccc aaa tcc atc 240  
 Ser Phe Leu Asp Leu Cys Leu Ile Ser Ala Thr Val Pro Lys Ser Ile  
 65 70 75 80  
 ctc aac tct gtc gcc tcc act gac tcc atc tcc ttc ctg ggg tgt gtg 288  
 Leu Asn Ser Val Ala Ser Thr Asp Ser Ile Ser Phe Leu Gly Cys Val  
 85 90 95  
 ttg cag ctc ttc ttg gtg gta ctg ctg gct gga tca gag att ggc atc 336  
 Leu Gln Leu Phe Leu Val Val Leu Leu Ala Gly Ser Glu Ile Gly Ile  
 100 105 110  
 ctt act gcc atg tcc tat gac cgc tat gct gcc atc tgc tgc ccc cta 384  
 Leu Thr Ala Met Ser Tyr Asp Arg Tyr Ala Ala Ile Cys Cys Pro Leu  
 115 120 125  
 cac tgt gag gct gtc atg agc aga ggg ctc tgt gtc cag ttg atg gct 432  
 His Cys Glu Ala Val Met Ser Arg Gly Leu Cys Val Gln Leu Met Ala  
 130 135 140  
 ctg tcc tgg ctc aac aga ggg gcc ttg gga ctc ttg tac aca gct gga 480  
 Leu Ser Trp Leu Asn Arg Gly Ala Leu Gly Leu Leu Tyr Thr Ala Gly  
 145 150 155 160

aca ttc tct ctg aat ttt tat ggc tct gat gag cta cat cag ttc ttc 528  
 Thr Phe Ser Leu Asn Phe Tyr Gly Ser Asp Glu Leu His Gln Phe Phe  
 165 170 175

tgc gat gtc cct gcc cta cta aag ctc act tgt tct aaa gaa cat gcc 576  
 Cys Asp Val Pro Ala Leu Leu Lys Leu Thr Cys Ser Lys Glu His Ala  
 180 185 190

atc att agt gtc agt gtg gcc att ggg gtc tgt tat gca ttt tca tgt 624  
 Ile Ile Ser Val Ser Val Ala Ile Gly Val Cys Tyr Ala Phe Ser Cys  
 195 200 205

tta gtt tgc att gta gtt tcc tat gtg tac att ttc tct gct gtg tta 672  
 Leu Val Cys Ile Val Val Ser Tyr Val Tyr Ile Phe Ser Ala Val Leu  
 210 215 220

agg ata tca cag aga cag aga caa tcc aaa gcc ttt tcc aac tgt gtg 720  
 Arg Ile Ser Gln Arg Gln Arg Gln Ser Lys Ala Phe Ser Asn Cys Val  
 225 230 235 240

cct cac ctc att gtt gtc act gtg ttt ctt gta aca ggt gct gtt gct 768  
 Pro His Leu Ile Val Val Thr Val Phe Leu Val Thr Gly Ala Val Ala  
 245 250 255

tat tta aag cca ggg tct gat gca cct tct att cta gac ttg ctg gtg 816  
 Tyr Leu Lys Pro Gly Ser Asp Ala Pro Ser Ile Leu Asp Leu Leu Val  
 260 265 270

tct gtg ttc tat tct gtc gca cct cca acc ttg aac cct gtt atc tac 864  
 Ser Val Phe Tyr Ser Val Ala Pro Pro Thr Leu Asn Pro Val Ile Tyr  
 275 280 285

tgt ctg aag aac aag gac att aaa tcc gct ctg agt aaa gtc ctg tgg 912  
 Cys Leu Lys Asn Lys Asp Ile Lys Ser Ala Leu Ser Lys Val Leu Trp  
 290 295 300

aat gtt aga agc agt ggg gta atg aaa gat gac taa 948  
 Asn Val Arg Ser Ser Gly Val Met Lys Asp Asp  
 305 310 315

&lt;210&gt; 146

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 146

Met Thr Asn Gln Thr Gln Met Met Glu Phe Leu Leu Val Arg Phe Thr  
 1 5 10 15

Glu Asn Trp Val Leu Leu Arg Leu His Ala Leu Leu Phe Ser Leu Ile  
 20 25 30

Tyr Leu Thr Ala Val Leu Met Asn Leu Val Ile Ile Leu Leu Met Ile  
 35 40 45

Leu Asp His Arg Leu His Met Ala Met Tyr Phe Phe Leu Arg His Leu

50	55	60
Ser Phe Leu Asp Leu Cys Leu Ile Ser Ala Thr Val Pro Lys Ser Ile		
65	70	75 80
Leu Asn Ser Val Ala Ser Thr Asp Ser Ile Ser Phe Leu Gly Cys Val		
	85	90 95
Leu Gln Leu Phe Leu Val Val Leu Leu Ala Gly Ser Glu Ile Gly Ile		
	100	105 110
Leu Thr Ala Met Ser Tyr Asp Arg Tyr Ala Ala Ile Cys Cys Pro Leu		
	115	120 125
His Cys Glu Ala Val Met Ser Arg Gly Leu Cys Val Gln Leu Met Ala		
	130	135 140
Leu Ser Trp Leu Asn Arg Gly Ala Leu Gly Leu Leu Tyr Thr Ala Gly		
145	150	155 160
Thr Phe Ser Leu Asn Phe Tyr Gly Ser Asp Glu Leu His Gln Phe Phe		
	165	170 175
Cys Asp Val Pro Ala Leu Leu Lys Leu Thr Cys Ser Lys Glu His Ala		
	180	185 190
Ile Ile Ser Val Ser Val Ala Ile Gly Val Cys Tyr Ala Phe Ser Cys		
	195	200 205
Leu Val Cys Ile Val Val Ser Tyr Val Tyr Ile Phe Ser Ala Val Leu		
	210	215 220
Arg Ile Ser Gln Arg Gln Arg Gln Ser Lys Ala Phe Ser Asn Cys Val		
225	230	235 240
Pro His Leu Ile Val Val Thr Val Phe Leu Val Thr Gly Ala Val Ala		
	245	250 255
Tyr Leu Lys Pro Gly Ser Asp Ala Pro Ser Ile Leu Asp Leu Leu Val		
	260	265 270
Ser Val Phe Tyr Ser Val Ala Pro Pro Thr Leu Asn Pro Val Ile Tyr		
	275	280 285
Cys Leu Lys Asn Lys Asp Ile Lys Ser Ala Leu Ser Lys Val Leu Trp		
	290	300

Asn Val Arg Ser Ser Gly Val Met Lys Asp Asp  
305 310 315

<210> 147  
<211> 939  
<212> DNA  
<213> Homo Sapiens

<220>  
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<222> (1) .. (936)  
<223>

<400> 147  
atg cat caa gga aac caa acc acc atc act gaa ttc att ctc ctg gga 48  
Met His Gln Gly Asn Gln Thr Thr Ile Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15  
ttt ttc aag cag gat gag cat caa aac ctc ctc ttt gtg ctt ttc ttg 96  
Phe Phe Lys Gln Asp Glu His Gln Asn Leu Leu Phe Val Leu Phe Leu  
20 25 30  
ggt atg tac ctg gtc act gtg att ggg aac ggg ctc atc att gtg gct 144  
Gly Met Tyr Leu Val Thr Val Ile Gly Asn Gly Leu Ile Ile Val Ala  
35 40 45  
atc agc ttg gat acg tac ctt cat acc ccc atg tat ctc ttc ctt gcc 192  
Ile Ser Leu Asp Thr Tyr Leu His Thr Pro Met Tyr Leu Phe Leu Ala  
50 55 60  
aat cta tcc ttt gct gat att tcc tcc att tcc aac tca gtc ccc aaa 240  
Asn Leu Ser Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys  
65 70 75 80  
atg ctg gtg aat att caa acc aag agt caa tcc atc tct tat gag agc 288  
Met Leu Val Asn Ile Gln Thr Lys Ser Gln Ser Ile Ser Tyr Glu Ser  
85 90 95  
tgc atc aca cag atg tac ttt tct att gtg ttt gtc gtc att gac aat 336  
Cys Ile Thr Gln Met Tyr Phe Ser Ile Val Phe Val Val Ile Asp Asn  
100 105 110  
ttg ctc ttg ggg acc atg gcc tat gac cac ttt gtg gcg atc tgc cac 384  
Leu Leu Leu Gly Thr Met Ala Tyr Asp His Phe Val Ala Ile Cys His  
115 120 125  
cct ctg aat tat aca att ctc atg cgg ccc agg ttc ggc att ttg ctc 432  
Pro Leu Asn Tyr Thr Ile Leu Met Arg Pro Arg Phe Gly Ile Leu Leu  
130 135 140  
aca gtc atc tca tgg ttc ctc agt aat att att gct ctg aca cac acc 480  
Thr Val Ile Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr  
145 150 155 160  
ctt ctg ctc att caa ttg ctc ttc tgt aac cac aac act ctc cca cac 528  
Leu Leu Leu Ile Gln Leu Leu Phe Cys Asn His Asn Thr Leu Pro His  
165 170 175



ttc ttc tgt gac ttg gcc cct ctg ctc aaa ctg tcc tgt tca gat aca 576  
 Phe Phe Cys Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr  
 180 185 190

ttg atc aat gag ctt gtg ttg ttt att gtg ggt tta tca gtt atc atc 624  
 Leu Ile Asn Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile  
 195 200 205

ttc ccc ttt aca ctc agc ttc ttt tcc tat gtc tgc atc atc aga gct 672  
 Phe Pro Phe Thr Leu Ser Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala  
 210 215 220

gtc ctg aga gta tct tcc aca cag gga aag tgg aaa gcc ttc tcc act 720  
 Val Leu Arg Val Ser Ser Thr Gln Gly Lys Trp Lys Ala Phe Ser Thr  
 225 230 235 240

tgt ggc tct cac ctg aca gtt gta tta ctg ttc tac gga acc att gta 768  
 Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly Thr Ile Val  
 245 250 255

ggc gtg tac ttt ttc ccc tcc tcc act cac cct gag gac act gat aag 816  
 Gly Val Tyr Phe Phe Pro Ser Ser Thr His Pro Glu Asp Thr Asp Lys  
 260 265 270

att ggt gct gtc cta ttc act gtg gtg aca ccc atg ata aac ccc ttc 864  
 Ile Gly Ala Val Leu Phe Thr Val Val Thr Pro Met Ile Asn Pro Phe  
 275 280 285

atc tac agc ttg agg aat aag gat atg aaa ggt gcc ctg aga aag ctc 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Arg Lys Leu  
 290 295 300

atc aat aga aaa att tct tcc ctt tga 939  
 Ile Asn Arg Lys Ile Ser Ser Leu  
 305 310

<210> 148  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 148

Met His Gln Gly Asn Gln Thr Thr Ile Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15

Phe Phe Lys Gln Asp Glu His Gln Asn Leu Leu Phe Val Leu Phe Leu  
20 25 30

Gly Met Tyr Leu Val Thr Val Ile Gly Asn Gly Leu Ile Ile Val Ala  
35 40 45

Ile Ser Leu Asp Thr Tyr Leu His Thr Pro Met Tyr Leu Phe Leu Ala  
50 55 60

Asn Leu Ser Phe Ala Asp Ile Ser Ser Ile Ser Asn Ser Val Pro Lys  
65 70 75 80

Met Leu Val Asn Ile Gln Thr Lys Ser Gln Ser Ile Ser Tyr Glu Ser  
85 90 95

Cys Ile Thr Gln Met Tyr Phe Ser Ile Val Phe Val Val Ile Asp Asn  
100 105 110

Leu Leu Leu Gly Thr Met Ala Tyr Asp His Phe Val Ala Ile Cys His  
115 120 125

Pro Leu Asn Tyr Thr Ile Leu Met Arg Pro Arg Phe Gly Ile Leu Leu  
130 135 140

Thr Val Ile Ser Trp Phe Leu Ser Asn Ile Ile Ala Leu Thr His Thr  
145 150 155 160

Leu Leu Leu Ile Gln Leu Leu Phe Cys Asn His Asn Thr Leu Pro His  
165 170 175

Phe Phe Cys Asp Leu Ala Pro Leu Leu Lys Leu Ser Cys Ser Asp Thr  
180 185 190

Leu Ile Asn Glu Leu Val Leu Phe Ile Val Gly Leu Ser Val Ile Ile  
195 200 205

Phe Pro Phe Thr Leu Ser Phe Phe Ser Tyr Val Cys Ile Ile Arg Ala  
210 215 220

Val Leu Arg Val Ser Ser Thr Gln Gly Lys Trp Lys Ala Phe Ser Thr  
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Leu Leu Phe Tyr Gly Thr Ile Val  
245 250 255

Gly Val Tyr Phe Phe Pro Ser Ser Thr His Pro Glu Asp Thr Asp Lys  
260 265 270

Ile Gly Ala Val Leu Phe Thr Val Val Thr Pro Met Ile Asn Pro Phe  
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly Ala Leu Arg Lys Leu  
290 295 300

Ile Asn Arg Lys Ile Ser Ser Leu

305

310

<210> 149  
 <211> 921  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (918)  
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<400> 149  
 atg gtg act gag ttt ctt ctt ctc ggc ttc tcc cac ctg gcc gac ctc 48  
 Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu  
 1 5 10 15  
 cag ggc ttg ctc ttc tct gtc ttt ctc act atc tac ctg ctg acc gtg 96  
 Gln Gly Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val  
 20 25 30  
 gca ggc aat ttc ctc att gtg gtg ctg gtc tcc act gat gct gcc ctc 144  
 Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu  
 35 40 45  
 cag tcc cct atg tac ttc ttc ctg cgc acc ctc tcg gcc ttg gag att 192  
 Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile  
 50 55 60  
 ggc tat acg tct gtc acg gtc ccc ctg cta ctt cac cac ctc ctt act 240  
 Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr  
 65 70 75 80  
 ggc cgg cgc cac atc tct cgc tct gga tgt gct ctc cag atg ttc ttc 288  
 Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe  
 85 90 95  
 ttc ctc ttc ttt ggc gcc acg gag tgc tgc ctc ctg gca gcc atg gcc 336  
 Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala  
 100 105 110  
 tat gac cgc tat gca gcc atc tgt gaa ccc ctc cgc tac cca ctg ctg 384  
 Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu  
 115 120 125  
 ctg agc cac cgg gtg tgt cta cag cta gct ggg tcg gcg tgg gcc tgt 432  
 Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys  
 130 135 140  
 ggg gtg ctg gtg ggg ctg ggc cac acc cct ttc atc ttc tct ttg ccc 480  
 Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro  
 145 150 155 160  
 ttc tgc ggc ccc aat acc atc ccg cag ttc ttc tgt gag atc cag cct 528  
 Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro  
 165 170 175  
 gtc ctg cag ctg gta tgt gga gac acc tcg ctt aat gaa ctg cag att 576  
 Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile

	180	185	190	
atc ctg gca aca gcc ctc ctc atc ctc tgc ccc ttt ggc ctc atc ctg				624
Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu				
	195	200	205	
ggc tcc tac ggg cgt atc ctc gtt acc atc ttc cgg atc cca tct gtt				672
Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val				
	210	215	220	
gcg ggc cgc cgc aag gcc ttc tcc acc tgc tcc tcc cac ctg atc gtg				720
Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val				
	225	230	235	240
gtc tcc ctc ttc tat ggc acc gca ctc ttt atc tat att cgc cct aag				768
Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys				
	245	250	255	
gcc agc tac gat ccg gcc act gac cct ctg gtg tcc ctc ttc tat gct				816
Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala				
	260	265	270	
gtg gtc acc ccc atc ctc aac ccc atc atc tac agc ctg cgg aac aca				864
Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr				
	275	280	285	
gag gtc aaa gct gcc cta aag aga acc atc cag aaa acg gtg cct atg				912
Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met				
	290	295	300	
gag att tga				921
Glu Ile				
305				

<210> 150  
 <211> 306  
 <212> PRT  
 <213> Homo Sapiens

<400> 150

Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu				
1	5	10	15	
Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val				
	20	25	30	
Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu				
	35	40	45	
Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile				
	50	55	60	
Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr				
65	70	75	80	

Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe  
 85 90 95

Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala  
 100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu  
 115 120 125

Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys  
 130 135 140

Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro  
 145 150 155 160

Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro  
 165 170 175

Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile  
 180 185 190

Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu  
 195 200 205

Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val  
 210 215 220

Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val  
 225 230 235 240

Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys  
 245 250 255

Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala  
 260 265 270

Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr  
 275 280 285

Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met  
 290 295 300

Glu Ile  
 305

<210> 151  
 <211> 957  
 <212> DNA  
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<220>  
 <221> CDS  
 <222> (1) .. (954)  
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<400> 151  
 atg gaa tgg gaa aac caa acc att ctg gtg gaa ttt ttt ctg aag gga 48  
 Met Glu Trp Glu Asn Gln Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15  
 cat tct gtt cac cca agg ctt gag tta ctc ttt ttt gtg cta atc ttc 96  
 His Ser Val His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30  
 ata atg tat gtg gtc atc ctt ctg ggg aat ggt act ctc att tta atc 144  
 Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45  
 agc atc ttg gac cct cac ctt cac acc cct atg tac ttc ttt ctg ggg 192  
 Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tcc ttc ttg gac atc tgc tac acc acc acc tct att ccc tcc 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80  
 aca cta gtg agc ttc ctt tca gaa aga aag acc att tcc ttt tct ggc 288  
 Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Phe Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ctt ggc ttg gcc atg ggg aca aca gag tgt 336  
 Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 gtg ctt ctg ggc atg atg gcc ttt gac cgc tat gtg gct atc tgc aac 384  
 Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cct ctg aga tat ccc atc atc atg agc aag aat gcc tat gta ccc atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asn Ala Tyr Val Pro Met  
 130 135 140  
 gct gtt ggg tcc tgg ttt gca ggg att gtc aac tct gca gta caa act 480  
 Ala Val Gly Ser Trp Phe Ala Gly Ile Val Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 aca ttt gta gta caa ttg cct ttc tgc agg aag aat gtc atc aat cat 528  
 Thr Phe Val Val Gln Leu Pro Phe Cys Arg Lys Asn Val Ile Asn His  
 165 170 175  
 ttc tca tgt gaa att cta gct gtc atg aag ttg gcc tgt gct gac atc 576  
 Phe Ser Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 tca ggc aat gag ttc ctc atg ctt gtg gcc aca ata ttg ttc aca ttg 624

Ser Gly Asn Glu Phe Leu Met Leu Val Ala Thr Ile Leu Phe Thr Leu  
 195 200 205

atg cca ctg ctc ttg ata gtt atc tct tac tca tta atc att tcc agc 672  
 Met Pro Leu Leu Leu Ile Val Ile Ser Tyr Ser Leu Ile Ile Ser Ser  
 210 215 220

atc ctc aag att cac tcc tct gag ggg aga agc aaa gct ttc tct acc 720  
 Ile Leu Lys Ile His Ser Ser Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

tgc tca gcc cat ctg act gtg gtc ata ata ttc tat ggg acc atc ctc 768  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
 245 250 255

ttc atg tat atg aag ccc aag tct aaa gag aca ctt aat tca gat gac 816  
 Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

ttg gat gct acc gac aaa att ata tcc atg ttc tat ggg gtg atg act 864  
 Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285

ccc atg atg aat cct tta atc tac agt ctt aga aac aag gat gtg aaa 912  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gag gca gta aaa cac cta ccg aac aga agg ttc ttt agc aag tga 957  
 Glu Ala Val Lys His Leu Pro Asn Arg Arg Phe Phe Ser Lys  
 305 310 315

<210> 152  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 152

Met Glu Trp Glu Asn Gln Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15

His Ser Val His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30

Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45

Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80

Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Phe Ser Gly  
 85 90 95

Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asn Ala Tyr Val Pro Met  
 130 135 140  
 Ala Val Gly Ser Trp Phe Ala Gly Ile Val Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 Thr Phe Val Val Gln Leu Pro Phe Cys Arg Lys Asn Val Ile Asn His  
 165 170 175  
 Phe Ser Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 Ser Gly Asn Glu Phe Leu Met Leu Val Ala Thr Ile Leu Phe Thr Leu  
 195 200 205  
 Met Pro Leu Leu Leu Ile Val Ile Ser Tyr Ser Leu Ile Ile Ser Ser  
 210 215 220  
 Ile Leu Lys Ile His Ser Ser Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
 245 250 255  
 Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
 260 265 270  
 Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300  
 Glu Ala Val Lys His Leu Pro Asn Arg Arg Phe Phe Ser Lys  
 305 310 315

<210> 153  
 <211> 954  
 <212> DNA



&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(951)

&lt;223&gt;

&lt;400&gt; 153

atg	caa	cca	tat	acc	aaa	aac	tgg	acc	cag	gta	act	gaa	ttt	gtc	atg	48
Met	Gln	Pro	Tyr	Thr	Lys	Asn	Trp	Thr	Gln	Val	Thr	Glu	Phe	Val	Met	
1				5					10					15		

atg	ggc	ttt	gct	ggc	atc	cat	gaa	gca	cac	ctc	ctc	ttc	ttc	ata	ctc	96
Met	Gly	Phe	Ala	Gly	Ile	His	Glu	Ala	His	Leu	Leu	Phe	Phe	Ile	Leu	
		20						25					30			

ttc	ctc	acc	atg	tac	ctg	ttc	acc	ttg	gtg	gag	aat	ttg	gcc	atc	att	144
Phe	Leu	Thr	Met	Tyr	Leu	Phe	Thr	Leu	Val	Glu	Asn	Leu	Ala	Ile	Ile	
		35					40					45				

tta	gtg	gtg	ggt	ttg	gac	cac	cga	cta	cgg	aga	ccc	atg	tat	ttc	ttc	192
Leu	Val	Val	Gly	Leu	Asp	His	Arg	Leu	Arg	Arg	Pro	Met	Tyr	Phe	Phe	
	50					55					60					

ctg	aca	cac	ttg	tcc	tgc	ctt	gaa	atc	tgg	tac	act	tct	gtt	aca	gtg	240
Leu	Thr	His	Leu	Ser	Cys	Leu	Glu	Ile	Trp	Tyr	Thr	Ser	Val	Thr	Val	
65					70					75				80		

ccc	aag	atg	ctg	gct	ggt	ttt	att	ggg	gtg	gat	ggt	ggc	aag	aat	atc	288
Pro	Lys	Met	Leu	Ala	Gly	Phe	Ile	Gly	Val	Asp	Gly	Gly	Lys	Asn	Ile	
				85					90					95		

tct	tat	gct	ggt	tgc	cta	tcc	cag	ctc	ttc	atc	ttc	acc	ttt	ctt	ggg	336
Ser	Tyr	Ala	Gly	Cys	Leu	Ser	Gln	Leu	Phe	Ile	Phe	Thr	Phe	Leu	Gly	
			100					105						110		

gca	act	gag	tgt	ttc	cta	ctg	gct	gcc	atg	gcc	tat	gat	cgt	tat	gtg	384
Ala	Thr	Glu	Cys	Phe	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	
		115					120					125				

gcc	att	tgt	atg	cct	ctc	cac	tat	ggg	gct	ttt	gtg	tcc	tgg	ggc	acc	432
Ala	Ile	Cys	Met	Pro	Leu	His	Tyr	Gly	Ala	Phe	Val	Ser	Trp	Gly	Thr	
	130					135					140					

tgc	atc	cgt	ctg	gca	gct	gcc	tgt	tgg	ctg	gta	ggt	ttc	ctc	aca	ccc	480
Cys	Ile	Arg	Leu	Ala	Ala	Ala	Cys	Trp	Leu	Val	Gly	Phe	Leu	Thr	Pro	
145					150					155					160	

atc	ttg	cca	atc	tac	ctc	ttg	tct	cag	cta	aca	ttt	tgt	ggc	cca	aat	528
Ile	Leu	Pro	Ile	Tyr	Leu	Leu	Ser	Gln	Leu	Thr	Phe	Cys	Gly	Pro	Asn	
				165					170					175		

gtc	att	gac	cat	ttc	tcc	tgt	gat	gcc	tca	ccc	ttg	cta	gcc	ttg	tcg	576
Val	Ile	Asp	His	Phe	Ser	Cys	Asp	Ala	Ser	Pro	Leu	Leu	Ala	Leu	Ser	
			180					185					190			

tgc	tca	gat	gtc	act	tgg	aag	gag	act	gtg	gat	ttc	ctg	gtg	tct	ctg	624
Cys	Ser	Asp	Val	Thr	Trp	Lys	Glu	Thr	Val	Asp	Phe	Leu	Val	Ser	Leu	
		195					200					205				

gct gtg cta ctg gcc tcc tct atg gtc att gct gtg tcc tat ggc aac 672  
 Ala Val Leu Leu Ala Ser Ser Met Val Ile Ala Val Ser Tyr Gly Asn  
 210 215 220  
 atc gtc tgg aca ctg ctg cac atc cgc tca gct gct gag cgc tgg aag 720  
 Ile Val Trp Thr Leu Leu His Ile Arg Ser Ala Ala Glu Arg Trp Lys  
 225 230 235 240  
 gcc ttc tct acc tgt gca gct cac ctg act gtg gtg agc ctc ttc tat 768  
 Ala Phe Ser Thr Cys Ala Ala His Leu Thr Val Val Ser Leu Phe Tyr  
 245 250 255  
 ggc act ctt ttc ttt atg tat gtc cag acc aag gtg acc tcc tcc atc 816  
 Gly Thr Leu Phe Phe Met Tyr Val Gln Thr Lys Val Thr Ser Ser Ile  
 260 265 270  
 aac ttc aac aag gtg gta tct gtc ttc tac tct gtt gtc acg ccc atg 864  
 Asn Phe Asn Lys Val Val Ser Val Phe Tyr Ser Val Val Thr Pro Met  
 275 280 285  
 ctc aat cct ctc atc tac agt ctt agg aac aag gaa gtg aag gga gct 912  
 Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Gly Ala  
 290 295 300  
 ctg ggt cga gtc ttt tct ctc aac ttt tgg aag gga cag tga 954  
 Leu Gly Arg Val Phe Ser Leu Asn Phe Trp Lys Gly Gln  
 305 310 315

<210> 154  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 154

Met Gln Pro Tyr Thr Lys Asn Trp Thr Gln Val Thr Glu Phe Val Met  
1 5 10 15

Met Gly Phe Ala Gly Ile His Glu Ala His Leu Leu Phe Phe Ile Leu  
20 25 30

Phe Leu Thr Met Tyr Leu Phe Thr Leu Val Glu Asn Leu Ala Ile Ile  
35 40 45

Leu Val Val Gly Leu Asp His Arg Leu Arg Arg Pro Met Tyr Phe Phe  
50 55 60

Leu Thr His Leu Ser Cys Leu Glu Ile Trp Tyr Thr Ser Val Thr Val  
65 70 75 80

Pro Lys Met Leu Ala Gly Phe Ile Gly Val Asp Gly Gly Lys Asn Ile  
85 90 95

Ser Tyr Ala Gly Cys Leu Ser Gln Leu Phe Ile Phe Thr Phe Leu Gly

100					105					110					
Ala	Thr	Glu	Cys	Phe	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val
		115					120					125			
Ala	Ile	Cys	Met	Pro	Leu	His	Tyr	Gly	Ala	Phe	Val	Ser	Trp	Gly	Thr
	130					135					140				
Cys	Ile	Arg	Leu	Ala	Ala	Ala	Cys	Trp	Leu	Val	Gly	Phe	Leu	Thr	Pro
145					150					155					160
Ile	Leu	Pro	Ile	Tyr	Leu	Leu	Ser	Gln	Leu	Thr	Phe	Cys	Gly	Pro	Asn
				165					170					175	
Val	Ile	Asp	His	Phe	Ser	Cys	Asp	Ala	Ser	Pro	Leu	Leu	Ala	Leu	Ser
			180					185					190		
Cys	Ser	Asp	Val	Thr	Trp	Lys	Glu	Thr	Val	Asp	Phe	Leu	Val	Ser	Leu
		195					200					205			
Ala	Val	Leu	Leu	Ala	Ser	Ser	Met	Val	Ile	Ala	Val	Ser	Tyr	Gly	Asn
	210					215					220				
Ile	Val	Trp	Thr	Leu	Leu	His	Ile	Arg	Ser	Ala	Ala	Glu	Arg	Trp	Lys
225					230					235					240
Ala	Phe	Ser	Thr	Cys	Ala	Ala	His	Leu	Thr	Val	Val	Ser	Leu	Phe	Tyr
				245					250					255	
Gly	Thr	Leu	Phe	Phe	Met	Tyr	Val	Gln	Thr	Lys	Val	Thr	Ser	Ser	Ile
		260						265					270		
Asn	Phe	Asn	Lys	Val	Val	Ser	Val	Phe	Tyr	Ser	Val	Val	Thr	Pro	Met
		275					280					285			
Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys	Gly	Ala
	290					295					300				
Leu	Gly	Arg	Val	Phe	Ser	Leu	Asn	Phe	Trp	Lys	Gly	Gln			
305					310					315					

<210> 155  
 <211> 978  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(975)

&lt;223&gt;

&lt;400&gt; 155

atg acc acc ata att ctg gaa gta gat aat cat aca gtg aca aca cgt	48
Met Thr Thr Ile Ile Leu Glu Val Asp Asn His Thr Val Thr Thr Arg	
1 5 10 15	
ttc att ctt ctg ggg ttt cca aca cga cca gcc ttc cag ctt ctc ttt	96
Phe Ile Leu Leu Gly Phe Pro Thr Arg Pro Ala Phe Gln Leu Leu Phe	
20 25 30	
ttc tcc att ttc ctg gca acc tat ctg ctg aca ctg ctg gag aat ctt	144
Phe Ser Ile Phe Leu Ala Thr Tyr Leu Leu Thr Leu Leu Glu Asn Leu	
35 40 45	
ctt atc atc tta gct atc cac agt gat ggg cag ctg cat aag ccc atg	192
Leu Ile Ile Leu Ala Ile His Ser Asp Gly Gln Leu His Lys Pro Met	
50 55 60	
tac ttc ttc ttg agc cac ctc tcc ttc ctg gag atg tgg tat gtc aca	240
Tyr Phe Phe Leu Ser His Leu Ser Phe Leu Glu Met Trp Tyr Val Thr	
65 70 75 80	
gtc atc agc ccc aag atg ctt gtt gac ttc ctc agt cat gac aag agt	288
Val Ile Ser Pro Lys Met Leu Val Asp Phe Leu Ser His Asp Lys Ser	
85 90 95	
att tcc ttc aat ggc tgc atg act caa ctt tac ttt ttt gtg acc ttt	336
Ile Ser Phe Asn Gly Cys Met Thr Gln Leu Tyr Phe Phe Val Thr Phe	
100 105 110	
gtc tgc act gag tac atc ctt ctt gct atc atg gcc ttt gac cgc tat	384
Val Cys Thr Glu Tyr Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Tyr	
115 120 125	
gta gcc att tgt aat cca cta cgc tac cca gtc atc atg acc aac cag	432
Val Ala Ile Cys Asn Pro Leu Arg Tyr Pro Val Ile Met Thr Asn Gln	
130 135 140	
ctc tgt ggc aca ctg gct gga gga tgc tgg ttc tgt gga ctc atg act	480
Leu Cys Gly Thr Leu Ala Gly Gly Cys Trp Phe Cys Gly Leu Met Thr	
145 150 155 160	
gcc atg att aag atg gtt ttt ata gca caa ctt cac tac tgt ggc atg	528
Ala Met Ile Lys Met Val Phe Ile Ala Gln Leu His Tyr Cys Gly Met	
165 170 175	
cct cag atc aat cac tac ttt tgt gat atc tct cca ctc ctt aac gtc	576
Pro Gln Ile Asn His Tyr Phe Cys Asp Ile Ser Pro Leu Leu Asn Val	
180 185 190	
tcc tgt gag gat gcc tca cag gct gag atg gtg gac ttc ttc ttg gcc	624
Ser Cys Glu Asp Ala Ser Gln Ala Glu Met Val Asp Phe Phe Leu Ala	
195 200 205	
ctc atg gtc att gct att cct ctt tgt gtt gtg gtg gca tcc tac gct	672
Leu Met Val Ile Ala Ile Pro Leu Cys Val Val Val Ala Ser Tyr Ala	

210	215	220	
gct atc ctt gcc acc atc ctc agg atc cct tct gct cag ggc cgc caa			720
Ala Ile Leu Ala Thr Ile Leu Arg Ile Pro Ser Ala Gln Gly Arg Gln			
225	230	235	240
aag gca ttc tcc acc tgt gcc tcc cac ctg acc gtc gta att ctc ttc			768
Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Leu Phe			
	245	250	255
tat tcc atg aca ctt ttc acc tat gcc cgt ccc aaa ctc atg tat gcc			816
Tyr Ser Met Thr Leu Phe Thr Tyr Ala Arg Pro Lys Leu Met Tyr Ala			
	260	265	270
tac aat tcc aac aaa gtg gta tct gtt ctc tac act gtc att gtt cca			864
Tyr Asn Ser Asn Lys Val Val Ser Val Leu Tyr Thr Val Ile Val Pro			
	275	280	285
ctc ctc aac ccc atc att tac tgt ctg agg aac cat gaa gta aag gca			912
Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn His Glu Val Lys Ala			
	290	295	300
gcc ctc aga aag acc ata cat tgc aga gga agt ggg ccc cag gga aat			960
Ala Leu Arg Lys Thr Ile His Cys Arg Gly Ser Gly Pro Gln Gly Asn			
	305	310	315
ggg gct ttc agt agt taa			978
Gly Ala Phe Ser Ser			
	325		

<210> 156  
 <211> 325  
 <212> PRT  
 <213> Homo Sapiens

<400> 156

Met Thr Thr Ile Ile Leu Glu Val Asp Asn His Thr Val Thr Thr Arg  
1 5 10 15

Phe Ile Leu Leu Gly Phe Pro Thr Arg Pro Ala Phe Gln Leu Leu Phe  
20 25 30

Phe Ser Ile Phe Leu Ala Thr Tyr Leu Leu Thr Leu Leu Glu Asn Leu  
35 40 45

Leu Ile Ile Leu Ala Ile His Ser Asp Gly Gln Leu His Lys Pro Met  
50 55 60

Tyr Phe Phe Leu Ser His Leu Ser Phe Leu Glu Met Trp Tyr Val Thr  
65 70 75 80

Val Ile Ser Pro Lys Met Leu Val Asp Phe Leu Ser His Asp Lys Ser  
85 90 95

Ile Ser Phe Asn Gly Cys Met Thr Gln Leu Tyr Phe Phe Val Thr Phe  
 100 105 110

Val Cys Thr Glu Tyr Ile Leu Leu Ala Ile Met Ala Phe Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Asn Pro Leu Arg Tyr Pro Val Ile Met Thr Asn Gln  
 130 135 140

Leu Cys Gly Thr Leu Ala Gly Gly Cys Trp Phe Cys Gly Leu Met Thr  
 145 150 155 160

Ala Met Ile Lys Met Val Phe Ile Ala Gln Leu His Tyr Cys Gly Met  
 165 170 175

Pro Gln Ile Asn His Tyr Phe Cys Asp Ile Ser Pro Leu Leu Asn Val  
 180 185 190

Ser Cys Glu Asp Ala Ser Gln Ala Glu Met Val Asp Phe Phe Leu Ala  
 195 200 205

Leu Met Val Ile Ala Ile Pro Leu Cys Val Val Val Ala Ser Tyr Ala  
 210 215 220

Ala Ile Leu Ala Thr Ile Leu Arg Ile Pro Ser Ala Gln Gly Arg Gln  
 225 230 235 240

Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Leu Phe  
 245 250 255

Tyr Ser Met Thr Leu Phe Thr Tyr Ala Arg Pro Lys Leu Met Tyr Ala  
 260 265 270

Tyr Asn Ser Asn Lys Val Val Ser Val Leu Tyr Thr Val Ile Val Pro  
 275 280 285

Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn His Glu Val Lys Ala  
 290 295 300

Ala Leu Arg Lys Thr Ile His Cys Arg Gly Ser Gly Pro Gln Gly Asn  
 305 310 315 320

Gly Ala Phe Ser Ser  
 325

<210> 157  
 <211> 927  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(924)  
 <223>

<400> 157  
 atg gtc acc gaa ttc ctg ttg ctg ggt ttt tcc agc ctt ggt gaa att 48  
 Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser Ser Leu Gly Glu Ile  
 1 5 10 15  
 cag ctg gcc ctc ttt gta gtt ttt ctt ttt ctg tat cta gtc att ctt 96  
 Gln Leu Ala Leu Phe Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu  
 20 25 30  
 agt ggc aat gtc acc att atc agt gtc atc cac ctg gat aaa agc ctc 144  
 Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu  
 35 40 45  
 cac aca cca atg tac ttc ttc ctt ggc att ctc tca aca tct gag acc 192  
 His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr  
 50 55 60  
 ttc tac acc ttt gtc att cta ccc aag atg ctc atc aat cta ctt tct 240  
 Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser  
 65 70 75 80  
 gtg gcc agg aca atc tcc ttc aac tgt tgt gct ctt caa atg ttc ttc 288  
 Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe  
 85 90 95  
 ttc ctt ggt ttt gcc att acc aac tgc ctg cta ttg ggt gtg atg ggt 336  
 Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly  
 100 105 110  
 tat gat cgc tat gct gcc att tgt cac cct ctg cat tac ccc act ctt 384  
 Tyr Asp Arg Tyr Ala Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu  
 115 120 125  
 atg agc tgg cag gtg tgt gga aaa ctg gca gct gcc tgt gca att ggt 432  
 Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly  
 130 135 140  
 ggc ttc ttg gcc tct ctt aca gta gta aat tta gtt ttc agc ctc cct 480  
 Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro  
 145 150 155 160  
 ttt tgt agc gcc aac aaa gtc aat cat tac ttc tgt gac atc tca gca 528  
 Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala  
 165 170 175  
 gtc att ctt ctg gct tgt acc aac aca gat gtt aac gaa ttt gtg ata 576  
 Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile  
 180 185 190  
 ttc att tgt gga gtt ctt gta ctt gtg gtt ccc ttt ctg ttt atc tgt 624

Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys  
 195 200 205  
 gtt tct tat ctc tgc att ctg agg act atc ctg aag att ccc tca gct 672  
 Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala  
 210 215 220  
 gag ggc aga cgg aaa gcg ttt tcc acc tgc gcc tct cac ctc agt gtt 720  
 Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val  
 225 230 235 240  
 gtt att gtt cat tat ggc tgt gct tcc ttc atc tac ctg agg cct aca 768  
 Val Ile Val His Tyr Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr  
 245 250 255  
 gca aac tat gtg tcc aac aaa gac agg ctg gtg acg gtg aca tac acg 816  
 Ala Asn Tyr Val Ser Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr  
 260 265 270  
 att gtc act cca tta cta aac ccc atg gtt tat agc ctc aga aac aag 864  
 Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys  
 275 280 285  
 gat gtc caa ctt gct atc aga aaa gtg ttg ggc aag aaa ggt tct cta 912  
 Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ser Leu  
 290 295 300  
 aaa cta tat aat tga 927  
 Lys Leu Tyr Asn  
 305

<210> 158  
 <211> 308  
 <212> PRT  
 <213> Homo Sapiens

<400> 158

Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser Ser Leu Gly Glu Ile  
 1 5 10 15  
 Gln Leu Ala Leu Phe Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu  
 20 25 30  
 Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu  
 35 40 45  
 His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr  
 50 55 60  
 Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser  
 65 70 75 80  
 Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe  
 85 90 95



Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly  
 100 105 110  
 Tyr Asp Arg Tyr Ala Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu  
 115 120 125  
 Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly  
 130 135 140  
 Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro  
 145 150 155 160  
 Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala  
 165 170 175  
 Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile  
 180 185 190  
 Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys  
 195 200 205  
 Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala  
 210 215 220  
 Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val  
 225 230 235 240  
 Val Ile Val His Tyr Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr  
 245 250 255  
 Ala Asn Tyr Val Ser Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr  
 260 265 270  
 Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys  
 275 280 285  
 Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ser Leu  
 290 295 300  
 Lys Leu Tyr Asn  
 305

&lt;210&gt; 159

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(924)

&lt;223&gt;

&lt;400&gt; 159

atg acc atg gaa aat tat tct atg gca gct cag ttt gtc tta gat ggt	48
Met Thr Met Glu Asn Tyr Ser Met Ala Ala Gln Phe Val Leu Asp Gly	
1 5 10 15	

tta aca cag caa gca gag ctc cag ctg ccc ctc ttc ctc ctg ttc ctg	96
Leu Thr Gln Gln Ala Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu	
20 25 30	

gga atc tat gtg gtc aca gta gtg ggc aac ctg ggc atg att ctc ctg	144
Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met Ile Leu Leu	
35 40 45	

att gca gtc agc cct cta ctt cac acc ccc atg tac tat ttc ctc agc	192
Ile Ala Val Ser Pro Leu Leu His Thr Pro Met Tyr Tyr Phe Leu Ser	
50 55 60	

agc ttg tcc ttc gtc gat ttc tgc tat tcc tct gtc att act ccc aaa	240
Ser Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys	
65 70 75 80	

atg ctg gtg aac ttc cta gga aag aag aat aca atc ctt tac tct gag	288
Met Leu Val Asn Phe Leu Gly Lys Lys Asn Thr Ile Leu Tyr Ser Glu	
85 90 95	

tgc atg gtc cag ctc ttt ttc ttt gtg gtc ttt gtg gtg gct gag ggt	336
Cys Met Val Gln Leu Phe Phe Phe Val Val Phe Val Val Ala Glu Gly	
100 105 110	

tac ctc ctg act gcc atg gca tat gat cgc tat gtt gcc atc tgt agc	384
Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	

cca ctg ctt tat aat gcg atc atg tcc tca tgg gtc tgc tca ctg cta	432
Pro Leu Leu Tyr Asn Ala Ile Met Ser Ser Trp Val Cys Ser Leu Leu	
130 135 140	

gtg ctg gct gcc ttc ttc ttg ggc ttt ctc tct gcc ttg act cat aca	480
Val Leu Ala Ala Phe Phe Leu Gly Phe Leu Ser Ala Leu Thr His Thr	
145 150 155 160	

agt gcc atg atg aaa ctg tcc ttt tgc aaa tcc cac att atc aac cat	528
Ser Ala Met Met Lys Leu Ser Phe Cys Lys Ser His Ile Ile Asn His	
165 170 175	

tac ttc tgt gat gtt ctt ccc ctc ctc aat ctc tcc tgc tcc aac aca	576
Tyr Phe Cys Asp Val Leu Pro Leu Leu Asn Leu Ser Cys Ser Asn Thr	
180 185 190	

cac ctc aat gag ctt cta ctt ttt atc att gcg ggg ttt aac acc ttg	624
His Leu Asn Glu Leu Leu Leu Phe Ile Ile Ala Gly Phe Asn Thr Leu	
195 200 205	

gtg ccc acc cta gct gtt gct gtc tcc tat gcc ttc atc ctc tac agc 672  
 Val Pro Thr Leu Ala Val Ala Val Ser Tyr Ala Phe Ile Leu Tyr Ser  
 210 215 220  
  
 atc ctt cac atc cgc tcc tca gag ggc cgg tcc aaa gct ttt gga aca 720  
 Ile Leu His Ile Arg Ser Ser Glu Gly Arg Ser Lys Ala Phe Gly Thr  
 225 230 235 240  
  
 tgc agc tct cat ctc atg gct gtg gtg atc ttc ttt ggg tcc att acc 768  
 Cys Ser Ser His Leu Met Ala Val Val Ile Phe Phe Gly Ser Ile Thr  
 245 250 255  
  
 ttc atg tat ttc aag ccc cct tca agt aac tcc ctg gac cag gag aag 816  
 Phe Met Tyr Phe Lys Pro Pro Ser Ser Asn Ser Leu Asp Gln Glu Lys  
 260 265 270  
  
 gtg tcc tct gtg ttc tac acc acg gtg atc ccc atg ctg aac cct tta 864  
 Val Ser Ser Val Phe Tyr Thr Thr Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
  
 ata tac agt ctg agg aat aag gat gtg aag aaa gca tta agg aag gtc 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Arg Lys Val  
 290 295 300  
  
 tta gta gga aaa tga 927  
 Leu Val Gly Lys  
 305

<210> 160  
 <211> 308  
 <212> PRT  
 <213> Homo Sapiens

<400> 160

Met Thr Met Glu Asn Tyr Ser Met Ala Ala Gln Phe Val Leu Asp Gly  
1 5 10 15

Leu Thr Gln Gln Ala Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
20 25 30

Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met Ile Leu Leu  
35 40 45

Ile Ala Val Ser Pro Leu Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
50 55 60

Ser Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys  
65 70 75 80

Met Leu Val Asn Phe Leu Gly Lys Lys Asn Thr Ile Leu Tyr Ser Glu  
85 90 95

Cys Met Val Gln Leu Phe Phe Phe Val Val Phe Val Val Ala Glu Gly

100							105					110				
Tyr	Leu	Leu	Thr	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ser	
		115					120					125				
Pro	Leu	Leu	Tyr	Asn	Ala	Ile	Met	Ser	Ser	Trp	Val	Cys	Ser	Leu	Leu	
	130					135					140					
Val	Leu	Ala	Ala	Phe	Phe	Leu	Gly	Phe	Leu	Ser	Ala	Leu	Thr	His	Thr	
145					150					155					160	
Ser	Ala	Met	Met	Lys	Leu	Ser	Phe	Cys	Lys	Ser	His	Ile	Ile	Asn	His	
				165					170					175		
Tyr	Phe	Cys	Asp	Val	Leu	Pro	Leu	Leu	Asn	Leu	Ser	Cys	Ser	Asn	Thr	
			180					185					190			
His	Leu	Asn	Glu	Leu	Leu	Leu	Phe	Ile	Ile	Ala	Gly	Phe	Asn	Thr	Leu	
		195					200					205				
Val	Pro	Thr	Leu	Ala	Val	Ala	Val	Ser	Tyr	Ala	Phe	Ile	Leu	Tyr	Ser	
	210					215					220					
Ile	Leu	His	Ile	Arg	Ser	Ser	Glu	Gly	Arg	Ser	Lys	Ala	Phe	Gly	Thr	
225					230					235					240	
Cys	Ser	Ser	His	Leu	Met	Ala	Val	Val	Ile	Phe	Phe	Gly	Ser	Ile	Thr	
				245					250					255		
Phe	Met	Tyr	Phe	Lys	Pro	Pro	Ser	Ser	Asn	Ser	Leu	Asp	Gln	Glu	Lys	
			260					265					270			
Val	Ser	Ser	Val	Phe	Tyr	Thr	Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu	
		275					280					285				
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Lys	Ala	Leu	Arg	Lys	Val	
	290					295					300					
Leu	Val	Gly	Lys													
305																

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<210> 161
<211> 915
<212> DNA
<213> Homo Sapiens
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**<220>**

&lt;221&gt; CDS

&lt;222&gt; (1)..(912)

&lt;223&gt;

&lt;400&gt; 161

atg ctg gct aga aac aac tcc tta gtg act gaa ttt att ctt gct gga	48
Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly	
1 5 10 15	
tta aca gat cat cca gag ttc cag caa ccc ctc ttt ttc ctg ttt cta	96
Leu Thr Asp His Pro Glu Phe Gln Gln Pro Leu Phe Phe Leu Phe Leu	
20 25 30	
gtg gtc tac att gtc acc atg gta ggc aac ctt ggc ttg atc att ctt	144
Val Val Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Ile Leu	
35 40 45	
ttc ggt cta aat tct cac ctc cac aca cca atg tac tat ttc ctc ttc	192
Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe	
50 55 60	
aat ctc tcc ttc att gat ctc tgt tac tcc tct gtt ttc act ccc aaa	240
Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys	
65 70 75 80	
atg cta atg aac ttt gta tca aaa aag aat att atc tcc tat gtt ggg	288
Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Tyr Val Gly	
85 90 95	
tgc atg act cag ctg ttt ttc ttt ctc ttt ttt gtc atc tct gaa tgt	336
Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys	
100 105 110	
tac atg ttg acc tca atg gca tat gat cgc tat gtg gcc atc tgt aat	384
Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cca ttg ctg tat aag gtc acc atg tcc cat cag gtc tgt tct atg ctc	432
Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu	
130 135 140	
act ttt gct gct tac ata atg gga ttg gct gga gcc acg gcc cac acc	480
Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr	
145 150 155 160	
ggg tgc atg ctt aga ctc acc ttc tgc agt gct aat atc atc aac cat	528
Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His	
165 170 175	
tac ttg tgt gac ata ctc ccc ctc ctc cag ctt tcc tgc acc agc acc	576
Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr	
180 185 190	
tat gtc aac gag gtg gtt gtt ctc att gtt gtg ggt att aat atc atg	624
Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Met	
195 200 205	
gta ccc agt tgt acc atc ctc att tct tat gtt ttc att gtc act agc	672
Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser	
210 215 220	

att ctt cat atc aaa tcc act caa gga aga tca aaa gcc ttc agt act 720  
 Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240  
  
 tgt agc tct cat gtc att gct ctg tct ctg ttt ttt ggg tca gcg gca 768  
 Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala  
 245 250 255  
  
 ttc atg tat att aaa tat tct tct gga tct atg gag cag gga aaa gtt 816  
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
 260 265 270  
  
 tct tct gtt ttc tac act aat gtg gtg ccc atg ctc aat cct ctc atc 864  
 Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
 275 280 285  
  
 tac agt ttg agg aac aag gat gtc aaa gtt gca ctg agg aaa gct ctg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
 290 295 300  
  
 att 915

<210> 162  
 <211> 304  
 <212> PRT  
 <213> Homo Sapiens

<400> 162

Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly  
1 5 10 15

Leu Thr Asp His Pro Glu Phe Gln Gln Pro Leu Phe Phe Leu Phe Leu  
20 25 30

Val Val Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Ile Leu  
35 40 45

Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe  
50 55 60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys  
65 70 75 80

Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Tyr Val Gly  
85 90 95

Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys  
100 105 110

Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu  
130 135 140

Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr  
145 150 155 160

Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His  
165 170 175

Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr  
180 185 190

Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Met  
195 200 205

Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser  
210 215 220

Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala  
245 250 255

Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
260 265 270

Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
290 295 300

<210> 163

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (939)

<223>

<400> 163

atg ctg gct aga aac aac tcc tta gtg act gaa ttt att ctt gct gga  
Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly  
1 5 10 15

48

tta	aca	gat	cat	cca	gag	ttc	cgg	caa	ccc	ctc	ttt	ttc	ctg	ttt	cta	96
Leu	Thr	Asp	His	Pro	Glu	Phe	Arg	Gln	Pro	Leu	Phe	Phe	Leu	Phe	Leu	
			20					25					30			
gtg	atc	tac	att	gtc	acc	atg	gta	ggc	aac	ctt	ggc	ttg	atc	act	ctt	144
Val	Ile	Tyr	Ile	Val	Thr	Met	Val	Gly	Asn	Leu	Gly	Leu	Ile	Thr	Leu	
		35					40					45				
ttc	ggg	cta	aat	tct	cac	ctc	cac	aca	cca	atg	tac	tat	ttc	ctc	ttc	192
Phe	Gly	Leu	Asn	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Tyr	Phe	Leu	Phe	
	50					55					60					
aat	ctc	tcc	ttc	att	gat	ctc	tgt	tac	tcc	tct	gtt	ttc	act	ccc	aaa	240
Asn	Leu	Ser	Phe	Ile	Asp	Leu	Cys	Tyr	Ser	Ser	Val	Phe	Thr	Pro	Lys	
65					70				75						80	
atg	cta	atg	aac	ttt	gtg	tca	aaa	aag	aat	att	atc	tcc	aat	gtt	ggg	288
Met	Leu	Met	Asn	Phe	Val	Ser	Lys	Lys	Asn	Ile	Ile	Ser	Asn	Val	Gly	
			85					90					95			
tgc	atg	act	cgg	ctg	ttt	ttc	ttt	ctc	ttt	ttc	gtc	atc	tct	gaa	tgt	336
Cys	Met	Thr	Arg	Leu	Phe	Phe	Phe	Leu	Phe	Phe	Val	Ile	Ser	Glu	Cys	
			100					105					110			
tac	atg	ttg	act	tca	atg	gca	tat	gat	cgc	tat	gtg	gcc	atc	tgt	aat	384
Tyr	Met	Leu	Thr	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	
		115				120					125					
cca	ttg	ctg	tat	aag	gtc	acc	atg	tcc	cat	cag	gtc	tgt	tct	atg	ctc	432
Pro	Leu	Leu	Tyr	Lys	Val	Thr	Met	Ser	His	Gln	Val	Cys	Ser	Met	Leu	
	130					135					140					
act	ttt	gct	gct	tac	ata	atg	gga	ttg	gct	gga	gcc	acg	gcc	cac	acc	480
Thr	Phe	Ala	Ala	Tyr	Ile	Met	Gly	Leu	Ala	Gly	Ala	Thr	Ala	His	Thr	
145					150					155					160	
ggg	tgc	atg	ctt	aga	ctc	acc	ttc	tgc	agt	gct	aat	atc	atc	aac	cat	528
Gly	Cys	Met	Leu	Arg	Leu	Thr	Phe	Cys	Ser	Ala	Asn	Ile	Ile	Asn	His	
				165				170						175		
tac	ttg	tgt	gac	ata	ctc	ccc	ctc	ctc	cag	ctt	tcc	tgc	acc	agc	acc	576
Tyr	Leu	Cys	Asp	Ile	Leu	Pro	Leu	Leu	Gln	Leu	Ser	Cys	Thr	Ser	Thr	
			180					185					190			
tat	gtc	aac	gag	gtg	gtt	gtt	ctc	att	gtt	gtg	ggg	act	aat	atc	acg	624
Tyr	Val	Asn	Glu	Val	Val	Val	Leu	Ile	Val	Val	Gly	Thr	Asn	Ile	Thr	
		195					200					205				
gta	ccc	agt	tgt	acc	atc	ctc	att	tct	tat	gtt	ttc	att	gtc	act	agc	672
Val	Pro	Ser	Cys	Thr	Ile	Leu	Ile	Ser	Tyr	Val	Phe	Ile	Val	Thr	Ser	
	210					215					220					
att	ctt	cat	atc	aaa	tcc	act	caa	gga	aga	tca	aaa	gcc	ttc	agt	act	720
Ile	Leu	His	Ile	Lys	Ser	Thr	Gln	Gly	Arg	Ser	Lys	Ala	Phe	Ser	Thr	
225					230					235					240	
tgt	agc	tct	cat	gtc	att	gct	ctg	tct	ctg	ttt	ttt	ggg	tca	gcg	gca	768
Cys	Ser	Ser	His	Val	Ile	Ala	Leu	Ser	Leu	Phe	Phe	Gly	Ser	Ala	Ala	
				245					250					255		



ttc atg tat att aaa tat tct tct gga tct atg gag cag gga aaa gtt 816  
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
                   260                                  265                                  270

tct tct gtt ttc tac act aat gtg gtg ccc atg ctc aat ccc ctc atc 864  
 Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
                   275                                  280                                  285

tac agt ttg agg aac aag gat gtc aaa gtt gca ctg agg aaa gct ctg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
                   290                                  295                                  300

att aaa att cag agg aga aat ata ttc taa 942  
 Ile Lys Ile Gln Arg Arg Asn Ile Phe  
                   305                                  310

<210> 164

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 164

Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly  
                   1                                  5                                  10                                  15

Leu Thr Asp His Pro Glu Phe Arg Gln Pro Leu Phe Phe Leu Phe Leu  
                   20                                  25                                  30

Val Ile Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Thr Leu  
                   35                                  40                                  45

Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe  
                   50                                  55                                  60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys  
                   65                                  70                                  75                                  80

Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Asn Val Gly  
                   85                                  90                                  95

Cys Met Thr Arg Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys  
                   100                                  105                                  110

Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
                   115                                  120                                  125

Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu  
                   130                                  135                                  140

Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr

145                                      150                                      155                                      160  
 Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His  
    165                                      170                                      175  
 Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr  
    180                                      185                                      190  
 Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Thr Asn Ile Thr  
    195                                      200                                      205  
 Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser  
    210                                      215                                      220  
 Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr  
    225                                      230                                      235                                      240  
 Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala  
    245                                      250                                      255  
 Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val  
    260                                      265                                      270  
 Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile  
    275                                      280                                      285  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu  
    290                                      295                                      300  
 Ile Lys Ile Gln Arg Arg Asn Ile Phe  
    305                                      310

<210> 165  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
 <223>

<400> 165  
 atg act ctg aga aac agc tcc tca gtg act gag ttt atc ctt gtg gga 48  
 Met Thr Leu Arg Asn Ser Ser Ser Val Thr Glu Phe Ile Leu Val Gly  
 1                                      5                                      10                                      15  
 tta tca gaa cag cca gag ctc cag ctc cct ctt ttc ctt cta ttc tta 96  
 Leu Ser Glu Gln Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu

20						25						30						
ggg	atc	tat	gtg	ttc	act	gtg	gtg	ggc	aac	ttg	ggc	ttg	atc	acc	tta	144		
Gly	Ile	Tyr	Val	Phe	Thr	Val	Val	Gly	Asn	Leu	Gly	Leu	Ile	Thr	Leu			
		35					40					45						
att	ggg	ata	aat	cct	agc	ctt	cac	acc	ccc	atg	tac	ttt	ttc	ctc	ttc	192		
Ile	Gly	Ile	Asn	Pro	Ser	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Phe			
	50					55					60							
aac	ttg	tcc	ttt	ata	gat	ctc	tgt	tat	tcc	tgt	gtg	ttt	acc	ccc	aaa	240		
Asn	Leu	Ser	Phe	Ile	Asp	Leu	Cys	Tyr	Ser	Cys	Val	Phe	Thr	Pro	Lys			
65					70				75						80			
atg	ctg	aat	gac	ttt	gtt	tca	gaa	agt	atc	atc	tct	tat	gtg	gga	tgt	288		
Met	Leu	Asn	Asp	Phe	Val	Ser	Glu	Ser	Ile	Ile	Ser	Tyr	Val	Gly	Cys			
				85					90					95				
atg	act	cag	cta	ttt	ttc	ttc	tgt	ttc	ttt	gtc	aat	tct	gag	tgc	tat	336		
Met	Thr	Gln	Leu	Phe	Phe	Phe	Cys	Phe	Phe	Val	Asn	Ser	Glu	Cys	Tyr			
			100					105					110					
gtg	ttg	gta	tca	atg	gcc	tat	gat	cgc	tat	gtg	gcc	atc	tgc	aac	ccc	384		
Val	Leu	Val	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	Pro			
		115					120					125						
ctg	ctc	tac	atg	gtc	acc	atg	tcc	cca	agg	gtc	tgc	ttt	ctg	ctg	atg	432		
Leu	Leu	Tyr	Met	Val	Thr	Met	Ser	Pro	Arg	Val	Cys	Phe	Leu	Leu	Met			
	130					135					140							
ttt	ggg	tcc	tat	gtg	gta	ggg	ttt	gct	ggg	gcc	atg	gcc	cac	act	gga	480		
Phe	Gly	Ser	Tyr	Val	Val	Gly	Phe	Ala	Gly	Ala	Met	Ala	His	Thr	Gly			
145					150				155						160			
agc	atg	ctg	cga	ctg	acc	ttc	tgt	gat	tcc	aac	gtc	att	gac	cat	tat	528		
Ser	Met	Leu	Arg	Leu	Thr	Phe	Cys	Asp	Ser	Asn	Val	Ile	Asp	His	Tyr			
				165					170					175				
ctg	tgt	gac	gtt	ctc	ccc	ctc	ttg	cag	ctc	tcc	tgc	acc	agc	acc	cat	576		
Leu	Cys	Asp	Val	Leu	Pro	Leu	Leu	Gln	Leu	Ser	Cys	Thr	Ser	Thr	His			
			180				185						190					
gtc	agt	gag	ctg	gta	ttt	ttc	att	gtt	gtt	gga	gta	atc	acc	atg	cta	624		
Val	Ser	Glu	Leu	Val	Phe	Phe	Ile	Val	Val	Gly	Val	Ile	Thr	Met	Leu			
		195					200					205						
tcc	agc	ata	agc	atc	gtc	atc	tct	tac	gct	ttg	ata	ctc	tcc	aac	atc	672		
Ser	Ser	Ile	Ser	Ile	Val	Ile	Ser	Tyr	Ala	Leu	Ile	Leu	Ser	Asn	Ile			
		210				215					220							
ctc	tgt	att	cct	tct	gca	gag	ggc	aga	tcc	aaa	gcc	ttt	agc	aca	tgg	720		
Leu	Cys	Ile	Pro	Ser	Ala	Glu	Gly	Arg	Ser	Lys	Ala	Phe	Ser	Thr	Trp			
225					230				235						240			
ggc	tcc	cac	ata	att	gct	gtt	gct	ctg	ttt	ttt	ggg	tca	ggg	aca	ttc	768		
Gly	Ser	His	Ile	Ile	Ala	Val	Ala	Leu	Phe	Phe	Gly	Ser	Gly	Thr	Phe			
			245				250						255					
acc	tac	tta	aca	aca	tct	ttt	cct	ggc	tct	atg	aac	cat	ggc	aga	ttt	816		
Thr	Tyr	Leu	Thr	Thr	Ser	Phe	Pro	Gly	Ser	Met	Asn	His	Gly	Arg	Phe			
			260				265						270					

gcc tca gtc ttt tac acc aat gtg gtt ccc atg ctt aac cct tcg atc 864  
 Ala Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Ser Ile  
           275                                  280                                  285

tac agt ttg agg aat aag gat gat aaa ctt gcc ctg ggc aaa acc ctg 912  
 Tyr Ser Leu Arg Asn Lys Asp Asp Lys Leu Ala Leu Gly Lys Thr Leu  
           290                                  295                                  300

aag aga gtg ctc ttc taa 930  
 Lys Arg Val Leu Phe  
 305

<210> 166  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 166

Met Thr Leu Arg Asn Ser Ser Ser Val Thr Glu Phe Ile Leu Val Gly  
 1                                  5                                  10                                  15

Leu Ser Glu Gln Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu  
                                   20                                  25                                  30

Gly Ile Tyr Val Phe Thr Val Val Gly Asn Leu Gly Leu Ile Thr Leu  
           35                                  40                                  45

Ile Gly Ile Asn Pro Ser Leu His Thr Pro Met Tyr Phe Phe Leu Phe  
           50                                  55                                  60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Cys Val Phe Thr Pro Lys  
 65                                  70                                  75                                  80

Met Leu Asn Asp Phe Val Ser Glu Ser Ile Ile Ser Tyr Val Gly Cys  
                                   85                                  90                                  95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Asn Ser Glu Cys Tyr  
                                   100                                  105                                  110

Val Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro  
           115                                  120                                  125

Leu Leu Tyr Met Val Thr Met Ser Pro Arg Val Cys Phe Leu Leu Met  
           130                                  135                                  140

Phe Gly Ser Tyr Val Val Gly Phe Ala Gly Ala Met Ala His Thr Gly  
 145                                  150                                  155                                  160

Ser Met Leu Arg Leu Thr Phe Cys Asp Ser Asn Val Ile Asp His Tyr  
 165 170 175

Leu Cys Asp Val Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr His  
 180 185 190

Val Ser Glu Leu Val Phe Phe Ile Val Val Gly Val Ile Thr Met Leu  
 195 200 205

Ser Ser Ile Ser Ile Val Ile Ser Tyr Ala Leu Ile Leu Ser Asn Ile  
 210 215 220

Leu Cys Ile Pro Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Thr Trp  
 225 230 235 240

Gly Ser His Ile Ile Ala Val Ala Leu Phe Phe Gly Ser Gly Thr Phe  
 245 250 255

Thr Tyr Leu Thr Thr Ser Phe Pro Gly Ser Met Asn His Gly Arg Phe  
 260 265 270

Ala Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Ser Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Asp Lys Leu Ala Leu Gly Lys Thr Leu  
 290 295 300

Lys Arg Val Leu Phe  
 305

<210> 167  
 <211> 969  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(966)  
 <223>

<400> 167  
 atg agc cct gag aac cag agc agc gtg tcc gag ttc ctc ctc ctg ggc 48  
 Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly  
 1 5 10 15  
 ctc ccc atc egg cca gag cag cag gcc gtg ttc ttc gcc ctg ttc ctg 96  
 Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Ala Leu Phe Leu  
 20 25 30  
 ggc atg tac ctg acc acg gtg ctg ggg aac ctg ctc atc atg ctg ctc 144

Gly	Met	Tyr	Leu	Thr	Thr	Val	Leu	Gly	Asn	Leu	Leu	Ile	Met	Leu	Leu	
	35						40					45				
atc	cag	cta	gac	tct	cac	ctt	cac	acc	ccc	atg	tac	ttc	ttc	ctt	agc	192
Ile	Gln	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ser	
	50					55					60					
cac	ttg	gcc	ctc	act	gac	atc	tcc	ttt	tca	tct	gtc	act	gtc	cct	aag	240
His	Leu	Ala	Leu	Thr	Asp	Ile	Ser	Phe	Ser	Ser	Val	Thr	Val	Pro	Lys	
65					70					75					80	
atg	ctg	atg	aac	atg	cag	act	cag	cac	cta	gcc	gtc	ttt	tac	aag	gga	288
Met	Leu	Met	Asn	Met	Gln	Thr	Gln	His	Leu	Ala	Val	Phe	Tyr	Lys	Gly	
				85					90					95		
tgc	att	tca	cag	aca	tat	ttt	ttc	ata	ttt	ttt	gct	gac	tta	gac	agt	336
Cys	Ile	Ser	Gln	Thr	Tyr	Phe	Phe	Ile	Phe	Phe	Ala	Asp	Leu	Asp	Ser	
			100					105					110			
ttc	ctt	atc	act	tca	atg	gca	tat	gac	agg	tat	gtg	gcc	atc	tgt	cat	384
Phe	Leu	Ile	Thr	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	
		115					120					125				
cct	cta	cat	tat	gcc	acc	atc	atg	act	cag	agc	cag	tgt	gtc	atg	ctg	432
Pro	Leu	His	Tyr	Ala	Thr	Ile	Met	Thr	Gln	Ser	Gln	Cys	Val	Met	Leu	
	130					135					140					
gtg	gct	ggg	tcc	tgg	gtc	atc	gct	tgt	gcg	tgt	gct	ctt	ttg	cat	acc	480
Val	Ala	Gly	Ser	Trp	Val	Ile	Ala	Cys	Ala	Cys	Ala	Leu	Leu	His	Thr	
145					150					155					160	
ctc	ctc	ctg	gcc	cag	ctt	tcc	ttc	tgt	gct	gac	cac	atc	atc	cct	cac	528
Leu	Leu	Leu	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Asp	His	Ile	Ile	Pro	His	
				165					170					175		
tac	ttc	tgt	gac	ctt	ggg	gcc	ctg	ctc	aag	ttg	tcc	tgc	tca	gac	acc	576
Tyr	Phe	Cys	Asp	Leu	Gly	Ala	Leu	Leu	Lys	Leu	Ser	Cys	Ser	Asp	Thr	
			180					185					190			
tcc	ctc	aat	cag	tta	gca	atc	ttt	aca	gca	gca	ttg	aca	gcc	att	atg	624
Ser	Leu	Asn	Gln	Leu	Ala	Ile	Phe	Thr	Ala	Ala	Leu	Thr	Ala	Ile	Met	
		195					200					205				
ctt	cca	ttc	ctg	tgc	atc	ctg	gtt	tct	tat	ggg	cac	att	ggg	gtc	acc	672
Leu	Pro	Phe	Leu	Cys	Ile	Leu	Val	Ser	Tyr	Gly	His	Ile	Gly	Val	Thr	
	210					215					220					
atc	ctc	cag	att	ccc	tct	acc	aag	ggc	ata	tgc	aaa	gcc	ttg	tcc	act	720
Ile	Leu	Gln	Ile	Pro	Ser	Thr	Lys	Gly	Ile	Cys	Lys	Ala	Leu	Ser	Thr	
225					230					235					240	
tgt	gga	tcc	cac	ctc	tca	gtg	gtg	act	atc	tat	tat	cgg	aca	att	att	768
Cys	Gly	Ser	His	Leu	Ser	Val	Val	Thr	Ile	Tyr	Tyr	Arg	Thr	Ile	Ile	
				245					250					255		
ggg	ctc	tat	ttt	ctt	ccc	cca	tcc	agc	aac	acc	aat	gac	aag	aac	ata	816
Gly	Leu	Tyr	Phe	Leu	Pro	Pro	Ser	Ser	Asn	Thr	Asn	Asp	Lys	Asn	Ile	
			260					265				270				
att	gct	tca	gtg	ata	tac	aca	gca	gtc	act	ccc	atg	ttg	aac	cca	ttc	864
Ile	Ala	Ser	Val	Ile	Tyr	Thr	Ala	Val	Thr	Pro	Met	Leu	Asn	Pro	Phe	

Val	Ala	Gly	Ser	Trp	Val	Ile	Ala	Cys	Ala	Cys	Ala	Leu	Leu	His	Thr
145					150					155					160

Leu Leu Leu Ala Gln Leu Ser Phe Cys Ala Asp His Ile Ile Pro His  
 165 170 175

Tyr Phe Cys Asp Leu Gly Ala Leu Leu Lys Leu Ser Cys Ser Asp Thr  
 180 185 190

Ser Leu Asn Gln Leu Ala Ile Phe Thr Ala Ala Leu Thr Ala Ile Met  
 195 200 205

Leu Pro Phe Leu Cys Ile Leu Val Ser Tyr Gly His Ile Gly Val Thr  
 210 215 220

Ile Leu Gln Ile Pro Ser Thr Lys Gly Ile Cys Lys Ala Leu Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Thr Ile Tyr Tyr Arg Thr Ile Ile  
 245 250 255

Gly Leu Tyr Phe Leu Pro Pro Ser Ser Asn Thr Asn Asp Lys Asn Ile  
 260 265 270

Ile Ala Ser Val Ile Tyr Thr Ala Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Gly Ala Leu Arg Lys Leu  
 290 295 300

Leu Ser Arg Ser Gly Ala Val Ala His Ala Cys Asn Leu Ser Thr Leu  
 305 310 315 320

Gly Gly

<210> 169  
 <211> 972  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (969)  
 <223>

<400> 169  
 atg tgg cag aag aat cag acc tct ctg gca gac ttc atc ctt gag ggg  
 Met Trp Gln Lys Asn Gln Thr Ser Leu Ala Asp Phe Ile Leu Glu Gly  
 1 5 10 15

48



ctc ttc gat gac tcc ctt acc cac ctt ttc ctt ttc tcc ttg acc atg	96
Leu Phe Asp Asp Ser Leu Thr His Leu Phe Leu Phe Ser Leu Thr Met	
20 25 30	
gtg gtc ttc ctt att gcg gtg agt ggc aac acc ctc acc att ctc ctc	144
Val Val Phe Leu Ile Ala Val Ser Gly Asn Thr Leu Thr Ile Leu Leu	
35 40 45	
atc tgc att gat ccc cag ctt cat aca cca atg tat ttc ctg ctc agc	192
Ile Cys Ile Asp Pro Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser	
50 55 60	
cag ctc tcc ctc atg gat ctg atg cat gtc tcc aca atc atc ctg aag	240
Gln Leu Ser Leu Met Asp Leu Met His Val Ser Thr Ile Ile Leu Lys	
65 70 75 80	
atg gct acc aac tac cta tct ggc aag aaa tct atc tcc ttt gtg ggc	288
Met Ala Thr Asn Tyr Leu Ser Gly Lys Lys Ser Ile Ser Phe Val Gly	
85 90 95	
tgt gca acc cag cac ttc ctc tat ttg tgt cta ggt ggt gct gaa tgt	336
Cys Ala Thr Gln His Phe Leu Tyr Leu Cys Leu Gly Gly Ala Glu Cys	
100 105 110	
ttt ctc tta gct gtc atg tcc tat gac cgc tat gtt gcc atc tgt cat	384
Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His	
115 120 125	
cca ctg cgc tat gct gtg ctc atg aac aag aag gtg gga ctg atg atg	432
Pro Leu Arg Tyr Ala Val Leu Met Asn Lys Lys Val Gly Leu Met Met	
130 135 140	
gct gtc atg tca tgg ttg ggg gca tcc gtg aac tcc cta att cac atg	480
Ala Val Met Ser Trp Leu Gly Ala Ser Val Asn Ser Leu Ile His Met	
145 150 155 160	
gcg atc ttg atg cac ttc cct ttc tgt ggg cct cgg aaa gtc tac cac	528
Ala Ile Leu Met His Phe Pro Phe Cys Gly Pro Arg Lys Val Tyr His	
165 170 175	
ttc tac tgt gag ttc cca gct gtt gtg aag ttg gta tgt ggc gac atc	576
Phe Tyr Cys Glu Phe Pro Ala Val Val Lys Leu Val Cys Gly Asp Ile	
180 185 190	
act gtg tat gag acc aca gtg tac atc agc agc att ctc ctc ctc ctc	624
Thr Val Tyr Glu Thr Thr Val Tyr Ile Ser Ser Ile Leu Leu Leu Leu	
195 200 205	
ccc atc ttc ctg att tct aca tcc tat gtc ttc atc ctt caa agt gtc	672
Pro Ile Phe Leu Ile Ser Thr Ser Tyr Val Phe Ile Leu Gln Ser Val	
210 215 220	
att cag atg cgc tca tct ggg agc aag aga aat gcc ttt gcc act tgt	720
Ile Gln Met Arg Ser Ser Gly Ser Lys Arg Asn Ala Phe Ala Thr Cys	
225 230 235 240	
ggc tcc cac ctc acg gtg gtt tct ctt tgg ttt ggt gcc tgc atc ttc	768
Gly Ser His Leu Thr Val Val Ser Leu Trp Phe Gly Ala Cys Ile Phe	
245 250 255	
tcc tac atg aga ccc agg tcc cag tgc act cta ttg cag aac aaa gtt	816

Ser Tyr Met Arg Pro Arg Ser Gln Cys Thr Leu Leu Gln Asn Lys Val  
 260 265 270

ggt tct gtg ttc tac agc atc att acg ccc aca ttg aat tct ctg att 864  
 Gly Ser Val Phe Tyr Ser Ile Ile Thr Pro Thr Leu Asn Ser Leu Ile  
 275 280 285

tat act ctc cgg aat aaa gat gta gct aag gct ctg aga aga gtg ctg 912  
 Tyr Thr Leu Arg Asn Lys Asp Val Ala Lys Ala Leu Arg Arg Val Leu  
 290 295 300

agg aga gat gtt atc acc cag tgc att caa cga ctg caa ttg tgg ttg 960  
 Arg Arg Asp Val Ile Thr Gln Cys Ile Gln Arg Leu Gln Leu Trp Leu  
 305 310 315 320

ccc cga gtg tag 972  
 Pro Arg Val

<210> 170  
 <211> 323  
 <212> PRT  
 <213> Homo Sapiens

<400> 170

Met Trp Gln Lys Asn Gln Thr Ser Leu Ala Asp Phe Ile Leu Glu Gly  
 1 5 10 15

Leu Phe Asp Asp Ser Leu Thr His Leu Phe Leu Phe Ser Leu Thr Met  
 20 25 30

Val Val Phe Leu Ile Ala Val Ser Gly Asn Thr Leu Thr Ile Leu Leu  
 35 40 45

Ile Cys Ile Asp Pro Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

Gln Leu Ser Leu Met Asp Leu Met His Val Ser Thr Ile Ile Leu Lys  
 65 70 75 80

Met Ala Thr Asn Tyr Leu Ser Gly Lys Lys Ser Ile Ser Phe Val Gly  
 85 90 95

Cys Ala Thr Gln His Phe Leu Tyr Leu Cys Leu Gly Gly Ala Glu Cys  
 100 105 110

Phe Leu Leu Ala Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Ala Val Leu Met Asn Lys Lys Val Gly Leu Met Met  
 130 135 140

Ala Val Met Ser Trp Leu Gly Ala Ser Val Asn Ser Leu Ile His Met  
145 150 155 160

Ala Ile Leu Met His Phe Pro Phe Cys Gly Pro Arg Lys Val Tyr His  
165 170 175

Phe Tyr Cys Glu Phe Pro Ala Val Val Lys Leu Val Cys Gly Asp Ile  
180 185 190

Thr Val Tyr Glu Thr Thr Val Tyr Ile Ser Ser Ile Leu Leu Leu Leu  
195 200 205

Pro Ile Phe Leu Ile Ser Thr Ser Tyr Val Phe Ile Leu Gln Ser Val  
210 215 220

Ile Gln Met Arg Ser Ser Gly Ser Lys Arg Asn Ala Phe Ala Thr Cys  
225 230 235 240

Gly Ser His Leu Thr Val Val Ser Leu Trp Phe Gly Ala Cys Ile Phe  
245 250 255

Ser Tyr Met Arg Pro Arg Ser Gln Cys Thr Leu Leu Gln Asn Lys Val  
260 265 270

Gly Ser Val Phe Tyr Ser Ile Ile Thr Pro Thr Leu Asn Ser Leu Ile  
275 280 285

Tyr Thr Leu Arg Asn Lys Asp Val Ala Lys Ala Leu Arg Arg Val Leu  
290 295 300

Arg Arg Asp Val Ile Thr Gln Cys Ile Gln Arg Leu Gln Leu Trp Leu  
305 310 315 320

Pro Arg Val

<210> 171  
<211> 939  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (936)  
<223>

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<400> 171
atg gaa gtg gga aat tgc acc atc ctg act gaa ttc atc ttg ttg ggt      48
Met Glu Val Gly Asn Cys Thr Ile Leu Thr Glu Phe Ile Leu Leu Gly
1          5          10          15

ttc tca gca gat tcc cag tgg cag ccg att cta ttt gga gtg ttt ctg      96
Phe Ser Ala Asp Ser Gln Trp Gln Pro Ile Leu Phe Gly Val Phe Leu
          20          25          30

atg ctc tat ttg ata acc ttg tca gga aac atg acc ttg gtt atc tta      144
Met Leu Tyr Leu Ile Thr Leu Ser Gly Asn Met Thr Leu Val Ile Leu
          35          40          45

atc cga act gat tcc cac ttg cat aca cct atg tac ttt ttc att ggc      192
Ile Arg Thr Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Ile Gly
          50          55          60

aat ctg tct ttt ttg gat ttc tgg tat acc tct gtg tat acc ccc aaa      240
Asn Leu Ser Phe Leu Asp Phe Trp Tyr Thr Ser Val Tyr Thr Pro Lys
65          70          75          80

atc ctg gcc agt tgt gtc tca gaa gat aag cgc att tcc ttg gct gga      288
Ile Leu Ala Ser Cys Val Ser Glu Asp Lys Arg Ile Ser Leu Ala Gly
          85          90          95

tgt ggg gct cag ctg ttt ttt tcc tgt gtt gta gcc tac act gaa tgc      336
Cys Gly Ala Gln Leu Phe Phe Ser Cys Val Val Ala Tyr Thr Glu Cys
          100          105          110

tat ctc ctg gca gcc atg gca tat gac cgc cat gca gca att tgt aac      384
Tyr Leu Leu Ala Ala Met Ala Tyr Asp Arg His Ala Ala Ile Cys Asn
          115          120          125

cca ttg ctt tat tca ggt acc atg tcc acc gcc ctc tgt act ggg ctt      432
Pro Leu Leu Tyr Ser Gly Thr Met Ser Thr Ala Leu Cys Thr Gly Leu
          130          135          140

gtt gct ggc tcc tac ata gga gga ttt ttg aat gcc ata gcc cat act      480
Val Ala Gly Ser Tyr Ile Gly Gly Phe Leu Asn Ala Ile Ala His Thr
145          150          155          160

gcc aat aca ttc cgc ctg cat ttt tgt ggt aaa aat atc att gac cac      528
Ala Asn Thr Phe Arg Leu His Phe Cys Gly Lys Asn Ile Ile Asp His
          165          170          175

ttt ttc tgt gat gca cca cca ttg gta aaa atg tcc tgt aca aac acc      576
Phe Phe Cys Asp Ala Pro Pro Leu Val Lys Met Ser Cys Thr Asn Thr
          180          185          190

agg gtc tac gaa aaa gtc ctg ctt ggt gtg gtg ggc ttc aca gta ctc      624
Arg Val Tyr Glu Lys Val Leu Leu Gly Val Val Gly Phe Thr Val Leu
          195          200          205

tcc agc att ctt gct atc ctg att tcc tat gtc aac atc ctc ctg gct      672
Ser Ser Ile Leu Ala Ile Leu Ile Ser Tyr Val Asn Ile Leu Leu Ala
          210          215          220

atc ctg aga atc cac tca gct tca gga aga cac aag gca ttc tcc acc      720
Ile Leu Arg Ile His Ser Ala Ser Gly Arg His Lys Ala Phe Ser Thr
225          230          235          240

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tgt gct tcc cac ctc atc tca gtc atg ctc ttc tat gga tca ttg ttg 768  
 Cys Ala Ser His Leu Ile Ser Val Met Leu Phe Tyr Gly Ser Leu Leu  
 245 250 255  
  
 ttt atg tat tca agg cct agt tcc acc tac tcc cta gag agg gac aaa 816  
 Phe Met Tyr Ser Arg Pro Ser Ser Thr Tyr Ser Leu Glu Arg Asp Lys  
 260 265 270  
  
 gta gct gct ctg ttc tac acc gtg atc aac cca ctg ctc aac cct ctc 864  
 Val Ala Ala Leu Phe Tyr Thr Val Ile Asn Pro Leu Leu Asn Pro Leu  
 275 280 285  
  
 atc tat agc ctg aga aac aaa gat atc aaa gag gcc ttc agg aaa gca 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Glu Ala Phe Arg Lys Ala  
 290 295 300  
  
 aca cag act ata caa cca caa aca tga 939  
 Thr Gln Thr Ile Gln Pro Gln Thr  
 305 310

<210> 172  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 172

Met Glu Val Gly Asn Cys Thr Ile Leu Thr Glu Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Ala Asp Ser Gln Trp Gln Pro Ile Leu Phe Gly Val Phe Leu  
20 25 30

Met Leu Tyr Leu Ile Thr Leu Ser Gly Asn Met Thr Leu Val Ile Leu  
35 40 45

Ile Arg Thr Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Ile Gly  
50 55 60

Asn Leu Ser Phe Leu Asp Phe Trp Tyr Thr Ser Val Tyr Thr Pro Lys  
65 70 75 80

Ile Leu Ala Ser Cys Val Ser Glu Asp Lys Arg Ile Ser Leu Ala Gly  
85 90 95

Cys Gly Ala Gln Leu Phe Phe Ser Cys Val Val Ala Tyr Thr Glu Cys  
100 105 110

Tyr Leu Leu Ala Ala Met Ala Tyr Asp Arg His Ala Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Ser Gly Thr Met Ser Thr Ala Leu Cys Thr Gly Leu

130                                      135                                      140  
 Val Ala Gly Ser Tyr Ile Gly Gly Phe Leu Asn Ala Ile Ala His Thr  
 145                                      150                                      155                                      160  
 Ala Asn Thr Phe Arg Leu His Phe Cys Gly Lys Asn Ile Ile Asp His  
                                     165                                      170                                      175  
 Phe Phe Cys Asp Ala Pro Pro Leu Val Lys Met Ser Cys Thr Asn Thr  
                                     180                                      185                                      190  
 Arg Val Tyr Glu Lys Val Leu Leu Gly Val Val Gly Phe Thr Val Leu  
                                     195                                      200                                      205  
 Ser Ser Ile Leu Ala Ile Leu Ile Ser Tyr Val Asn Ile Leu Leu Ala  
                                     210                                      215                                      220  
 Ile Leu Arg Ile His Ser Ala Ser Gly Arg His Lys Ala Phe Ser Thr  
 225                                      230                                      235                                      240  
 Cys Ala Ser His Leu Ile Ser Val Met Leu Phe Tyr Gly Ser Leu Leu  
                                     245                                      250                                      255  
 Phe Met Tyr Ser Arg Pro Ser Ser Thr Tyr Ser Leu Glu Arg Asp Lys  
                                     260                                      265                                      270  
 Val Ala Ala Leu Phe Tyr Thr Val Ile Asn Pro Leu Leu Asn Pro Leu  
                                     275                                      280                                      285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Glu Ala Phe Arg Lys Ala  
                                     290                                      295                                      300  
 Thr Gln Thr Ile Gln Pro Gln Thr  
 305                                      310

<210> 173  
 <211> 969  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(966)  
 <223>

<400> 173  
 atg aat tcc ctg aag cac ggg aat cac acc gct ctg acg ggg ttc atc  
 Met Asn Ser Leu Lys His Gly Asn His Thr Ala Leu Thr Gly Phe Ile

48

1	5	10	15	
cta ttg ggc tta aca gat gat cca atc ctt cga gtc atc ctc ttc atg				96
Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met				
	20	25	30	
atc atc cta tct ggt aat ctc agc ata att att ctt atc aga att tct				144
Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser				
	35	40	45	
tct cag ctc cat cat cct atg tat ttc ttt ctg agc cac ttg gct ttt				192
Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe				
	50	55	60	
gct gac atg gcc tat tca tct tct gtc aca ccc aac atg ctt gta aac				240
Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn				
	65	70	75	80
ttc ctg gtg gag aga aat aca gtc tcc tac ctt gga tgt gcc atc cag				288
Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln				
	85	90	95	
ctt ggt tca gcg gct ttc ttt gca aca gtc gaa tgc gtc ctt ctg gct				336
Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala				
	100	105	110	
gcc atg gcc tat gac cgc ttt gtg gca att tgc agt cca ctg ctt tat				384
Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr				
	115	120	125	
tca acc aaa atg tcc aca caa gtc agt gtc cag cta ctc tta gta gtt				432
Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val				
	130	135	140	
tac ata gct ggt ttt ctc att gct gtc tcc tat act act tcc ttc tat				480
Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr				
	145	150	155	160
ttt tta ctc ttc tgt gga cca aat caa gtc aat cat ttt ttc tgt gat				528
Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp				
	165	170	175	
ttc gct ccc tta ctt gaa ctc tcc tgt tct gat atc agt gtc tcc aca				576
Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr				
	180	185	190	
gtt gtt ctc tca ttt tct tct gga tcc atc att gtg gtc act gtg tgt				624
Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys				
	195	200	205	
gtc ata gcc gtc tgc tac atc tat atc ctc atc acc atc ctg aag atg				672
Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met				
	210	215	220	
cgc tcc act gag ggg cac cac aag gct ttc tcc acg tgc act tcc cac				720
Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His				
	225	230	235	240
ctc act gtg gtt acc ctg ttc tat ggg acc att acc ttc att tat gtg				768
Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val				
	245	250	255	

atg ccc aat ttt agc tac tca act gac cag aac aag gtg gtg tct gtg 816  
 Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val  
 260 265 270  
 ttg tac aca gtg gtg att ccc atg ttg aac ccc ctg atc tac agc ctc 864  
 Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
 275 280 285  
 agg aac aag gag att aag ggg gct ctg aag aga gag ctt gtt aga aaa 912  
 Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300  
 ata ctt tct cat gat gct tgt tat ttt agt aga act tca aat aat gat 960  
 Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320  
 att aca tag 969  
 Ile Thr

<210> 174  
 <211> 322  
 <212> PRT  
 <213> Homo Sapiens

<400> 174

Met Asn Ser Leu Lys His Gly Asn His Thr Ala Leu Thr Gly Phe Ile  
 1 5 10 15  
 Leu Leu Gly Leu Thr Asp Asp Pro Ile Leu Arg Val Ile Leu Phe Met  
 20 25 30  
 Ile Ile Leu Ser Gly Asn Leu Ser Ile Ile Ile Leu Ile Arg Ile Ser  
 35 40 45  
 Ser Gln Leu His His Pro Met Tyr Phe Phe Leu Ser His Leu Ala Phe  
 50 55 60  
 Ala Asp Met Ala Tyr Ser Ser Ser Val Thr Pro Asn Met Leu Val Asn  
 65 70 75 80  
 Phe Leu Val Glu Arg Asn Thr Val Ser Tyr Leu Gly Cys Ala Ile Gln  
 85 90 95  
 Leu Gly Ser Ala Ala Phe Phe Ala Thr Val Glu Cys Val Leu Leu Ala  
 100 105 110  
 Ala Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Ser Pro Leu Leu Tyr  
 115 120 125



Ser Thr Lys Met Ser Thr Gln Val Ser Val Gln Leu Leu Leu Val Val  
 130 135 140

Tyr Ile Ala Gly Phe Leu Ile Ala Val Ser Tyr Thr Thr Ser Phe Tyr  
 145 150 155 160

Phe Leu Leu Phe Cys Gly Pro Asn Gln Val Asn His Phe Phe Cys Asp  
 165 170 175

Phe Ala Pro Leu Leu Glu Leu Ser Cys Ser Asp Ile Ser Val Ser Thr  
 180 185 190

Val Val Leu Ser Phe Ser Ser Gly Ser Ile Ile Val Val Thr Val Cys  
 195 200 205

Val Ile Ala Val Cys Tyr Ile Tyr Ile Leu Ile Thr Ile Leu Lys Met  
 210 215 220

Arg Ser Thr Glu Gly His His Lys Ala Phe Ser Thr Cys Thr Ser His  
 225 230 235 240

Leu Thr Val Val Thr Leu Phe Tyr Gly Thr Ile Thr Phe Ile Tyr Val  
 245 250 255

Met Pro Asn Phe Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val  
 260 265 270

Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu  
 275 280 285

Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu Leu Val Arg Lys  
 290 295 300

Ile Leu Ser His Asp Ala Cys Tyr Phe Ser Arg Thr Ser Asn Asn Asp  
 305 310 315 320

Ile Thr

<210> 175  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

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<400> 175
atg ggg act gga aat gac acc act gtg gta gag ttt act ctt ttg ggg      48
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly
1          5          10          15

tta tct gag gat act aca gtt tgt gct att tta ttt ctt gtg ttt cta      96
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu
          20          25          30

gga att tat gtt gtc acc tta atg ggt aat atc agc ata att gta ttg      144
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu
          35          40          45

atc aga aga agt cat cat ctt cat aca ccc atg tac att ttc ctc tgc      192
Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys
          50          55          60

cat ttg gcc ttt gta gac att ggg tac tcc tca tca gtc aca cct gtc      240
His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val
65          70          75          80

atg ctc atg agc ttc cta agg aaa gaa acc tct ctc cct gtt gct ggt      288
Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly
          85          90          95

tgt gtg gcc cag ctc tgt tct gta gtg acg ttt ggt acg gcc gag tgc      336
Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys
          100          105          110

ttc ctg ctg gct gcc atg gcc tat gat cgc tat gtg gcc atc tgc tca      384
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser
          115          120          125

ccc ctg ctc tac tct acc tgc atg tcc cct gga gtc tgc atc atc tta      432
Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu
          130          135          140

gtg ggc atg tcc tac ctg ggt gga tgt gtg aat gct tgc aca ttc att      480
Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Cys Thr Phe Ile
145          150          155          160

ggc tgc tta tta aga ctg tcc ttc tgt ggg cca aat aaa gtc aat cac      528
Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His
          165          170          175

ttt ttc tgt gac tat tca cca ctt ttg aag ctt gct tgt tcc cat gat      576
Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp
          180          185          190

ttt act ttt gaa ata att cca gct atc tct tgt gga tct atc att gtg      624
Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Cys Gly Ser Ile Ile Val
          195          200          205

gcc act gtg tgt gtc ata gcc ata tcc tac atc tat atc ctc atc acc      672
Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr
          210          215          220

atc ctg aag atg cac tcc acc aag ggc cgc cac aag gct ttc tcc acg      720
Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr

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225	230	235	240	
tgc acc tcc cac ctc agt gca gtc act gtg tta tat ggg acc atc acc				768
Cys Thr Ser His Leu Ser Ala Val Thr Val Leu Tyr Gly Thr Ile Thr	245	250	255	
ttc att tat gtg atg ccc aag tcc agc tac tca act gac cag aac aag				816
Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys	260	265	270	
gtg gtg tct gtg tta tac acc gtg gtg att ccc atg ttg aac ccc ctg				864
Val Val Ser Val Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu	275	280	285	
atc tac agc ctc agg aac aag gag att aag ggg gct ctg aag aga gag				912
Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu	290	295	300	
ctt aga ata aaa ata ttt tct tga				936
Leu Arg Ile Lys Ile Phe Ser	305	310		
<210> 176				
<211> 311				
<212> PRT				
<213> Homo Sapiens				
<400> 176				
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly				
1	5	10	15	
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu				
	20	25	30	
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu				
	35	40	45	
Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys				
	50	55	60	
His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val				
	65	70	75	80
Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly				
	85	90	95	
Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys				
	100	105	110	
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser				
	115	120	125	

Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu  
 130 135 140

Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Cys Thr Phe Ile  
 145 150 155 160

Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His  
 165 170 175

Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp  
 180 185 190

Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Cys Gly Ser Ile Ile Val  
 195 200 205

Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr  
 210 215 220

Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Thr Ser His Leu Ser Ala Val Thr Val Leu Tyr Gly Thr Ile Thr  
 245 250 255

Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys  
 260 265 270

Val Val Ser Val Leu Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu  
 290 295 300

Leu Arg Ile Lys Ile Phe Ser  
 305 310

<210> 177  
 <211> 1032  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(1029)  
 <223>

<400> 177

atg gct ctt tat ttt tca ctc ata ctc cat ggt atg agt gat ctt ttc Met Ala Leu Tyr Phe Ser Leu Ile Leu His Gly Met Ser Asp Leu Phe 1 5 10 15	48
ttt ctc tct aca ggt cat cca aga gcg agc tgt agg atg gag gcc atg Phe Leu Ser Thr Gly His Pro Arg Ala Ser Cys Arg Met Glu Ala Met 20 25 30	96
aaa cta tta aat caa tct caa gtg tca gaa ttc att ttg ctg gga ctg Lys Leu Leu Asn Gln Ser Gln Val Ser Glu Phe Ile Leu Leu Gly Leu 35 40 45	144
acc agc tcc cag gat gta gag ttt ctt ctc ttt gcc ctc ttc tcg gtt Thr Ser Ser Gln Asp Val Glu Phe Leu Leu Phe Ala Leu Phe Ser Val 50 55 60	192
atc tat gtg gtc aca gtt ttg ggt aac ctt ctt att ata gtc aca gtg Ile Tyr Val Val Thr Val Leu Gly Asn Leu Leu Ile Ile Val Thr Val 65 70 75 80	240
ttt aac acc cct aac ctg aat act ccc atg tat ttt ctc ctt ggt aat Phe Asn Thr Pro Asn Leu Asn Thr Pro Met Tyr Phe Leu Leu Gly Asn 85 90 95	288
ctc tct ttt gta gat atg acc ctt gct tct ttt gcc acc cct aag gtg Leu Ser Phe Val Asp Met Thr Leu Ala Ser Phe Ala Thr Pro Lys Val 100 105 110	336
att ctg aac ttg tta aaa aag cag aag gta att tct ttt gct ggg tgc Ile Leu Asn Leu Leu Lys Lys Gln Lys Val Ile Ser Phe Ala Gly Cys 115 120 125	384
ttc act cag ata ttt ctc ctt cac tta ctg ggt ggg gtt gaa atg gta Phe Thr Gln Ile Phe Leu Leu His Leu Leu Gly Gly Val Glu Met Val 130 135 140	432
ctg ttg gtc tcc atg gct ttt gac aga tat gtg gcc att tgt aag ccc Leu Leu Val Ser Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro 145 150 155 160	480
cta cac tac atg acc atc atg aac aag aag gta tgt gtt ttg ctt gta Leu His Tyr Met Thr Ile Met Asn Lys Lys Val Cys Val Leu Leu Val 165 170 175	528
gtg acc tca tgg ctc ttg ggt ctc ctt cac tca ggg ttt cag ata cca Val Thr Ser Trp Leu Leu Gly Leu Leu His Ser Gly Phe Gln Ile Pro 180 185 190	576
ttt gct gtg aac ttg ccc ttt tgt ggt ccc aat gtg gta gac agc att Phe Ala Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser Ile 195 200 205	624
ttt tgt gac ctc cct ttg gtt act aag ctt gcc tgt ata gac ata tat Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Ile Tyr 210 215 220	672
ttt gta cag gta gtc att gtt gcc aac agt ggc ata atc tcc ctg agc Phe Val Gln Val Val Ile Val Ala Asn Ser Gly Ile Ile Ser Leu Ser 225 230 235 240	720
tgt ttc att att ttg ctt atc tcc tac agt ctg atc ctc ata acc att	768

Cys Phe Ile Ile Leu Leu Ile Ser Tyr Ser Leu Ile Leu Ile Thr Ile  
 245 250 255  
 aag aac cac tct cct act ggg caa tct aaa gcc cgt tcc act ttg act 816  
 Lys Asn His Ser Pro Thr Gly Gln Ser Lys Ala Arg Ser Thr Leu Thr  
 260 265 270  
 gct cac atc aca gtg gtg att ctc ttc ttt ggc cca tgc atc ttt atc 864  
 Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile  
 275 280 285  
 tac att tgg ccc ttc ggc aac cac tct gta gat aag ttc ctt gct gtg 912  
 Tyr Ile Trp Pro Phe Gly Asn His Ser Val Asp Lys Phe Leu Ala Val  
 290 295 300  
 ttt tat acc atc atc act cct atc ttg aat cca att atc tat act ctg 960  
 Phe Tyr Thr Ile Ile Thr Pro Ile Leu Asn Pro Ile Ile Tyr Thr Leu  
 305 310 315 320  
 aga aac aaa gaa atg aag ata tcc atg aaa aaa ctc tgg aga gct ttt 1008  
 Arg Asn Lys Glu Met Lys Ile Ser Met Lys Lys Leu Trp Arg Ala Phe  
 325 330 335  
 gtg aat tct aga gaa gat act tag 1032  
 Val Asn Ser Arg Glu Asp Thr  
 340

<210> 178  
 <211> 343  
 <212> PRT  
 <213> Homo Sapiens

<400> 178

Met Ala Leu Tyr Phe Ser Leu Ile Leu His Gly Met Ser Asp Leu Phe  
 1 5 10 15  
 Phe Leu Ser Thr Gly His Pro Arg Ala Ser Cys Arg Met Glu Ala Met  
 20 25 30  
 Lys Leu Leu Asn Gln Ser Gln Val Ser Glu Phe Ile Leu Leu Gly Leu  
 35 40 45  
 Thr Ser Ser Gln Asp Val Glu Phe Leu Leu Phe Ala Leu Phe Ser Val  
 50 55 60  
 Ile Tyr Val Val Thr Val Leu Gly Asn Leu Leu Ile Ile Val Thr Val  
 65 70 75 80  
 Phe Asn Thr Pro Asn Leu Asn Thr Pro Met Tyr Phe Leu Leu Gly Asn  
 85 90 95  
 Leu Ser Phe Val Asp Met Thr Leu Ala Ser Phe Ala Thr Pro Lys Val  
 100 105 110

Ile Leu Asn Leu Leu Lys Lys Gln Lys Val Ile Ser Phe Ala Gly Cys  
 115 120 125

Phe Thr Gln Ile Phe Leu Leu His Leu Leu Gly Gly Val Glu Met Val  
 130 135 140

Leu Leu Val Ser Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys Pro  
 145 150 155 160

Leu His Tyr Met Thr Ile Met Asn Lys Lys Val Cys Val Leu Leu Val  
 165 170 175

Val Thr Ser Trp Leu Leu Gly Leu Leu His Ser Gly Phe Gln Ile Pro  
 180 185 190

Phe Ala Val Asn Leu Pro Phe Cys Gly Pro Asn Val Val Asp Ser Ile  
 195 200 205

Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Ile Tyr  
 210 215 220

Phe Val Gln Val Val Ile Val Ala Asn Ser Gly Ile Ile Ser Leu Ser  
 225 230 235 240

Cys Phe Ile Ile Leu Leu Ile Ser Tyr Ser Leu Ile Leu Ile Thr Ile  
 245 250 255

Lys Asn His Ser Pro Thr Gly Gln Ser Lys Ala Arg Ser Thr Leu Thr  
 260 265 270

Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile  
 275 280 285

Tyr Ile Trp Pro Phe Gly Asn His Ser Val Asp Lys Phe Leu Ala Val  
 290 295 300

Phe Tyr Thr Ile Ile Thr Pro Ile Leu Asn Pro Ile Ile Tyr Thr Leu  
 305 310 315 320

Arg Asn Lys Glu Met Lys Ile Ser Met Lys Lys Leu Trp Arg Ala Phe  
 325 330 335

Val Asn Ser Arg Glu Asp Thr  
 340

<210> 179  
 <211> 927  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (927)  
 <223>

<400> 179  
 atg gaa aca cag aac ctc aca gtg gtg aca gaa ttc att ctt ctt ggt 48  
 Met Glu Thr Gln Asn Leu Thr Val Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15  
 ctg acc cag tct caa gat gct caa ctt ctg gtc ttt gtg cta gtc tta 96  
 Leu Thr Gln Ser Gln Asp Ala Gln Leu Leu Val Phe Val Leu Val Leu  
 20 25 30  
 att ttc tac ctt atc atc ctc cct gga aat ttc ctc atc att ttc acc 144  
 Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr  
 35 40 45  
 ata aag tca gac cct ggg ctc aca gcc ccc ctc tat ttc ttt ctg ggc 192  
 Ile Lys Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ttg gcc tta ctg gat gca tcc tac tcc ttc att gtg gtt ccc agg 240  
 Asn Leu Ala Leu Leu Asp Ala Ser Tyr Ser Phe Ile Val Val Pro Arg  
 65 70 75 80  
 atg ttg gtg gac ttc ctc tct gag aag aag gta atc tcc tat aga agc 288  
 Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Ser  
 85 90 95  
 tgc atc act cag ctc ttt ttc ttg cat ttt ctt gga gcg gga gag atg 336  
 Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Ala Gly Glu Met  
 100 105 110  
 ttc ctc ctc gtt gtg atg gcc ttt gac cgc tac atc gcc atc tgc cgg 384  
 Phe Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg  
 115 120 125  
 cct tta cac tat tca acc atc atg aac cct aga gcc tgc tat gca tta 432  
 Pro Leu His Tyr Ser Thr Ile Met Asn Pro Arg Ala Cys Tyr Ala Leu  
 130 135 140  
 tcg ttg gtt ctg tgg ctt ggg ggc ttt atc cat tcc att gta caa gta 480  
 Ser Leu Val Leu Trp Leu Gly Gly Phe Ile His Ser Ile Val Gln Val  
 145 150 155 160  
 gcc ctt atc ctg cac ttg cct ttc tgt ggc cca aac cag ctc gat aac 528  
 Ala Leu Ile Leu His Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn  
 165 170 175  
 ttc ttc tgt gat gtt cca cag gtc atc aag ctg gcc tgc acc aat acc 576  
 Phe Phe Cys Asp Val Pro Gln Val Ile Lys Leu Ala Cys Thr Asn Thr  
 180 185 190



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ttt gtg gtg gag ctt ctg atg gtc tcc aac agt ggc ctg ctc agc ctc      624
Phe Val Val Glu Leu Leu Met Val Ser Asn Ser Gly Leu Leu Ser Leu
      195                      200                      205

ctg tgc ttc ctg ggc ctt ctg gcc tcc tat gca gtc atc ctc tgt cgt      672
Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys Arg
      210                      215                      220

ata agg gag cac tcc tct gaa gga aag agc aag gct att tcc aca tgc      720
Ile Arg Glu His Ser Ser Glu Gly Lys Ser Lys Ala Ile Ser Thr Cys
      225                      230                      235                      240

acc acc cat att atc att ata ttt ctc atg ttt gga cct gct att ttc      768
Thr Thr His Ile Ile Ile Ile Phe Leu Met Phe Gly Pro Ala Ile Phe
      245                      250                      255

atc tac act tgc ccc ttc cag gct ttc cca gct gac aag gta gtt tct      816
Ile Tyr Thr Cys Pro Phe Gln Ala Phe Pro Ala Asp Lys Val Val Ser
      260                      265                      270

ctt ttc cat act gtc atc ttt cct ttg atg aac cct gtt att tat acg      864
Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Val Ile Tyr Thr
      275                      280                      285

ctt cgc aac cag gag gtg aaa gct tcc atg agg aag ttg tta agt caa      912
Leu Arg Asn Gln Glu Val Lys Ala Ser Met Arg Lys Leu Leu Ser Gln
      290                      295                      300

cat atg ttt tgc tga
His Met Phe Cys
305

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<210> 180
<211> 308
<212> PRT
<213> Homo Sapiens

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<400> 180

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Met Glu Thr Gln Asn Leu Thr Val Val Thr Glu Phe Ile Leu Leu Gly
1                      5                      10                      15

Leu Thr Gln Ser Gln Asp Ala Gln Leu Leu Val Phe Val Leu Val Leu
      20                      25                      30

Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr
      35                      40                      45

Ile Lys Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Phe Phe Leu Gly
      50                      55                      60

Asn Leu Ala Leu Leu Asp Ala Ser Tyr Ser Phe Ile Val Val Pro Arg
65                      70                      75                      80

Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Ser

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[illegible]

<212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(927)  
 <223>

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<400> 181
atg gcc agt aca agt aat gtg act gag ttg att ttc act ggc ctt ttc      48
Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly Leu Phe
1          5          10          15

cag gat cca gct gtg cag agt gta tgc ttt gtg gtg ttt ctc ccc gtg      96
Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu Pro Val
          20          25          30

tac ctt gcc acg gtg gtg ggc aat ggc ctc atc gtt ctg acg gtc agt      144
Tyr Leu Ala Thr Val Val Gly Asn Gly Leu Ile Val Leu Thr Val Ser
          35          40          45

atc agc aag agt ctg gat tct ccc atg tac ttc ttc ctt agc tgc ctg      192
Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser Cys Leu
          50          55          60

tcc ttg gtg gag atc agt tat tcc tcc act atc gcc cct aaa ttc atc      240
Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys Phe Ile
65          70          75          80

ata gac tta ctt gcc aag att aaa acc atc tct ctg gaa ggc tgt ctg      288
Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly Cys Leu
          85          90          95

act cag ata ttc ttc ttc cac ttc ttt ggg gtt gct gag atc ctt ttg      336
Thr Gln Ile Phe Phe His Phe Phe Gly Val Ala Glu Ile Leu Leu
          100          105          110

att gtg gtg atg gcc tat gat tgc tac gtg gcc att tgc aag cct ctt      384
Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu
          115          120          125

cat tat atg aac att atc agt cgt caa ctg tgt cac ctt ctg gtg gct      432
His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu Val Ala
          130          135          140

ggg tcc tgg ctg ggg ggc ttt tgt cac tcc ata att cag att ctc gtt      480
Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile Leu Val
145          150          155          160

atc atc caa ttg ccc ttc tgt ggt ccc aat gtg att gac cac tat ttc      528
Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Tyr Phe
          165          170          175

tgt gac ctc cag cct tta ttc aag ctt gcc tgc act gac acc ttc atg      576
Cys Asp Leu Gln Pro Leu Phe Lys Leu Ala Cys Thr Asp Thr Phe Met
          180          185          190

gag ggg gtt att gtg ttg gcc aac agt gga tta ttc tct gtc ttc tcc      624
Glu Gly Val Ile Val Leu Ala Asn Ser Gly Leu Phe Ser Val Phe Ser
          195          200          205
  
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ttc ctc atc ttg gtg tcc tct tat att gtc att ctg gtc aac ttg agg 672  
 Phe Leu Ile Leu Val Ser Ser Tyr Ile Val Ile Leu Val Asn Leu Arg  
 210 215 220  
  
 aac cat tct gca gag ggg agg cac aaa gcc ctc tcc acc tgt gct tct 720  
 Asn His Ser Ala Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ala Ser  
 225 230 235 240  
  
 cac atc aca gtg gtc atc ttg ttt ttt gga cct gct atc ttc ctc tac 768  
 His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Ala Ile Phe Leu Tyr  
 245 250 255  
  
 atg cga cct tct tcc act ttc act gaa gat aaa ctt gtg gct gta ttc 816  
 Met Arg Pro Ser Thr Phe Thr Glu Asp Lys Leu Val Ala Val Phe  
 260 265 270  
  
 tac acg gtc atc acc ccc atg ctg aac ccc atc att tac aca ctc agg 864  
 Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Thr Leu Arg  
 275 280 285  
  
 aat gca gag gtg aaa atc gcc ata aga aga ttg tgg agc aaa aag gag 912  
 Asn Ala Glu Val Lys Ile Ala Ile Arg Arg Leu Trp Ser Lys Lys Glu  
 290 295 300  
  
 aat cca ggg agg gag tga 930  
 Asn Pro Gly Arg Glu  
 305

<210> 182  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 182

Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly Leu Phe  
 1 5 10 15  
  
 Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu Pro Val  
 20 25 30  
  
 Tyr Leu Ala Thr Val Val Gly Asn Gly Leu Ile Val Leu Thr Val Ser  
 35 40 45  
  
 Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser Cys Leu  
 50 55 60  
  
 Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys Phe Ile  
 65 70 75 80  
  
 Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly Cys Leu  
 85 90 95

Thr Gln Ile Phe Phe Phe His Phe Phe Gly Val Ala Glu Ile Leu Leu  
 100 105 110

Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu Val Ala  
 130 135 140

Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile Leu Val  
 145 150 155 160

Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Tyr Phe  
 165 170 175

Cys Asp Leu Gln Pro Leu Phe Lys Leu Ala Cys Thr Asp Thr Phe Met  
 180 185 190

Glu Gly Val Ile Val Leu Ala Asn Ser Gly Leu Phe Ser Val Phe Ser  
 195 200 205

Phe Leu Ile Leu Val Ser Ser Tyr Ile Val Ile Leu Val Asn Leu Arg  
 210 215 220

Asn His Ser Ala Glu Gly Arg His Lys Ala Leu Ser Thr Cys Ala Ser  
 225 230 235 240

His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Ala Ile Phe Leu Tyr  
 245 250 255

Met Arg Pro Ser Ser Thr Phe Thr Glu Asp Lys Leu Val Ala Val Phe  
 260 265 270

Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Thr Leu Arg  
 275 280 285

Asn Ala Glu Val Lys Ile Ala Ile Arg Arg Leu Trp Ser Lys Lys Glu  
 290 295 300

Asn Pro Gly Arg Glu  
 305

<210> 183  
 <211> 918  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(915)

&lt;223&gt;

&lt;400&gt; 183

atg gtt gct	aca aac aat	gtg act gaa	ata att ttc	gtg gga ttt	tcc	48
Met Val Ala	Thr Asn Asn	Val Thr Glu	Ile Ile Phe	Val Gly Phe	Ser	
1	5	10	15			
cag aat tgg	agt gag cag	agg gtc att	tct gtg atg	ttt ctc ctc	atg	96
Gln Asn Trp	Ser Glu Gln	Arg Val Ile	Ser Val Met	Phe Leu Leu	Met	
	20	25	30			
tac aca gct	gtt gtg ctg	ggc aat ggc	ctc att gtg	gtg acc atc	ctg	144
Tyr Thr Ala	Val Val Leu	Gly Asn Gly	Leu Ile Val	Val Thr Ile	Leu	
	35	40	45			
gcc agc aaa	gtg ctc acc	tcc ccc atg	tat ttc ttt	ctc agc tac	tta	192
Ala Ser Lys	Val Leu Thr	Pro Met Tyr	Phe Phe Leu	Ser Tyr Leu		
	50	55	60			
tcc ttt gtg	gag atc tgc	tac tgt tct	gtc atg gcc	ccc aag ctt	atc	240
Ser Phe Val	Glu Ile Cys	Tyr Cys Ser	Val Met Ala	Pro Lys Leu	Ile	
65	70	75	80			
ttt gac tcc	ttt atc aag	agg aaa gtc	att tct ctc	aag ggc tgc	ctc	288
Phe Asp Ser	Phe Ile Lys	Arg Lys Val	Ile Ser Leu	Lys Gly Cys	Leu	
	85	90	95			
aca cag atg	ttt tcc ctc	cat ttc ttt	ggt ggc act	gag gcc ttt	ctc	336
Thr Gln Met	Phe Ser Leu	His Phe Phe	Gly Gly Thr	Glu Ala Phe	Leu	
	100	105	110			
ctg atg gtg	atg gcc tat	gac cgc tat	gtg gcc atc	tgc aag ccc	ttg	384
Leu Met Val	Met Ala Tyr	Asp Arg Tyr	Val Ala Ile	Cys Lys Pro	Leu	
	115	120	125			
cac tac atg	gcc atc atg	aac cag cga	atg tgt ggt	ctc ctc gtg	agg	432
His Tyr Met	Ala Ile Met	Asn Gln Arg	Met Cys Gly	Leu Leu Val	Arg	
	130	135	140			
ata gca tgg	ggc ggg ggc	ctg ctg cat	tct gtt ggg	caa acc ttc	ctg	480
Ile Ala Trp	Gly Gly Gly	Leu Leu His	Ser Val Gly	Gln Thr Phe	Leu	
145	150	155	160			
att ttc cag	ctc ccg ttc	tgt ggc ccc	aac atc atg	gac cac tac	ttc	528
Ile Phe Gln	Leu Pro Phe	Cys Gly Pro	Asn Ile Met	Asp His Tyr	Phe	
	165	170	175			
tgt gat gtc	cac cca gtg	ctg gag ctg	gcc tgc gca	gac acc ttc	ttc	576
Cys Asp Val	His Pro Val	Leu Glu Leu	Ala Cys Ala	Asp Thr Phe	Phe	
	180	185	190			
att agc ctg	ctg atc atc	acc aat ggc	ggc tcc atc	tcc gta gtc	agt	624
Ile Ser Leu	Leu Ile Ile	Thr Asn Gly	Gly Ser Ile	Ser Val Val	Ser	
	195	200	205			
ttc ttc gtg	ctg atg gct	tcc tac ctg	atc atc ctg	cac ttc ctg	aga	672
Phe Phe Val	Leu Met Ala	Ser Tyr Leu	Ile Ile Leu	His Phe Leu	Arg	

210	215	220	
agc cac aac ttg gag ggg cag cac aag gcc ctc tcc acc tgt gcc tct			720
Ser His Asn Leu Glu Gly Gln His Lys Ala Leu Ser Thr Cys Ala Ser			
225	230	235	240
cat gtc aca gtt gtc gac ctg ttc ttc ata cct tgc tcc ttg gtc tat			768
His Val Thr Val Val Asp Leu Phe Phe Ile Pro Cys Ser Leu Val Tyr			
	245	250	255
att agg ccc tgt gtc acc ctc cct gca gac aag ata gtt gct gta ttt			816
Ile Arg Pro Cys Val Thr Leu Pro Ala Asp Lys Ile Val Ala Val Phe			
	260	265	270
tat aca gtg gtc aca cct ctc tta aac cct gtg att tac tcc ttc agg			864
Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val Ile Tyr Ser Phe Arg			
	275	280	285
aat gct gaa gtg aaa aat gcc atg agg aga ttt att ggg gga aaa gta			912
Asn Ala Glu Val Lys Asn Ala Met Arg Arg Phe Ile Gly Gly Lys Val			
	290	295	300
att tga			918
Ile			
305			
<210> 184			
<211> 305			
<212> PRT			
<213> Homo Sapiens			
<400> 184			
Met Val Ala Thr Asn Asn Val Thr Glu Ile Ile Phe Val Gly Phe Ser			
1	5	10	15
Gln Asn Trp Ser Glu Gln Arg Val Ile Ser Val Met Phe Leu Leu Met			
	20	25	30
Tyr Thr Ala Val Val Leu Gly Asn Gly Leu Ile Val Val Thr Ile Leu			
	35	40	45
Ala Ser Lys Val Leu Thr Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu			
	50	55	60
Ser Phe Val Glu Ile Cys Tyr Cys Ser Val Met Ala Pro Lys Leu Ile			
65	70	75	80
Phe Asp Ser Phe Ile Lys Arg Lys Val Ile Ser Leu Lys Gly Cys Leu			
	85	90	95
Thr Gln Met Phe Ser Leu His Phe Phe Gly Gly Thr Glu Ala Phe Leu			
	100	105	110

Leu Met Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

His Tyr Met Ala Ile Met Asn Gln Arg Met Cys Gly Leu Leu Val Arg  
 130 135 140

Ile Ala Trp Gly Gly Gly Leu Leu His Ser Val Gly Gln Thr Phe Leu  
 145 150 155 160

Ile Phe Gln Leu Pro Phe Cys Gly Pro Asn Ile Met Asp His Tyr Phe  
 165 170 175

Cys Asp Val His Pro Val Leu Glu Leu Ala Cys Ala Asp Thr Phe Phe  
 180 185 190

Ile Ser Leu Leu Ile Ile Thr Asn Gly Gly Ser Ile Ser Val Val Ser  
 195 200 205

Phe Phe Val Leu Met Ala Ser Tyr Leu Ile Ile Leu His Phe Leu Arg  
 210 215 220

Ser His Asn Leu Glu Gly Gln His Lys Ala Leu Ser Thr Cys Ala Ser  
 225 230 235 240

His Val Thr Val Val Asp Leu Phe Phe Ile Pro Cys Ser Leu Val Tyr  
 245 250 255

Ile Arg Pro Cys Val Thr Leu Pro Ala Asp Lys Ile Val Ala Val Phe  
 260 265 270

Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val Ile Tyr Ser Phe Arg  
 275 280 285

Asn Ala Glu Val Lys Asn Ala Met Arg Arg Phe Ile Gly Gly Lys Val  
 290 295 300

Ile  
 305

<210> 185  
 <211> 912  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (909)



&lt;223&gt;

&lt;400&gt; 185

atg act gaa ttc att ttt ctg gta ctt tct ccc aac cag gag gtg cag	48
Met Thr Glu Phe Ile Phe Leu Val Leu Ser Pro Asn Gln Glu Val Gln	
1 5 10 15	
agg gtt tgc ttt gtg ata ttt ctg ttc ttg tac aca gca att gtg ctg	96
Arg Val Cys Phe Val Ile Phe Leu Phe Leu Tyr Thr Ala Ile Val Leu	
20 25 30	
ggg aat ttc ctc att gtg ctc act gtc atg acc agc aga agc ctt ggt	144
Gly Asn Phe Leu Ile Val Leu Thr Val Met Thr Ser Arg Ser Leu Gly	
35 40 45	
tcc ccc atg tac ttc ttc ctc agc tac ctc tcc ttc atg gag atc tgc	192
Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu Ser Phe Met Glu Ile Cys	
50 55 60	
tac tcc tcc gct aca gcc ccc aaa ctc atc tca gat ctg ctg gct gaa	240
Tyr Ser Ser Ala Thr Pro Lys Leu Ile Ser Asp Leu Leu Ala Glu	
65 70 75 80	
agg aaa gtc ata tct tgg tgg ggc tgc atg gca cag ctt ttc ttc ttg	288
Arg Lys Val Ile Ser Trp Trp Gly Cys Met Ala Gln Leu Phe Phe Leu	
85 90 95	
cac ttc ttt ggt ggc act gag att ttc ctg ctc act gtg atg gcc tat	336
His Phe Phe Gly Gly Thr Glu Ile Phe Leu Leu Thr Val Met Ala Tyr	
100 105 110	
gac cac tat gtg gcc atc tgc aag ccc ctc agc tac acc acc atc atg	384
Asp His Tyr Val Ala Ile Cys Lys Pro Leu Ser Tyr Thr Thr Ile Met	
115 120 125	
aac tgg cag gtg tgt act gtc ctt gta gga ata gca tgg gtg gga ggc	432
Asn Trp Gln Val Cys Thr Val Leu Val Gly Ile Ala Trp Val Gly Gly	
130 135 140	
ttc atg cat tcc ttt gca caa atc ctt ctc atc ttc cac ctg ctc ttc	480
Phe Met His Ser Phe Ala Gln Ile Leu Leu Ile Phe His Leu Leu Phe	
145 150 155 160	
tgt ggc ccc aat gtg atc aat cac tat ttc tgt gac cta gtt ccc ctt	528
Cys Gly Pro Asn Val Ile Asn His Tyr Phe Cys Asp Leu Val Pro Leu	
165 170 175	
ctc aaa ctt gcc tgc tct gac acc ttc ctc att ggt ctg ctg att gtt	576
Leu Lys Leu Ala Cys Ser Asp Thr Phe Leu Ile Gly Leu Leu Ile Val	
180 185 190	
gcc aat gga ggc acc ctg tct gtg atc agt ttt ggg gtc ctc tta gca	624
Ala Asn Gly Gly Thr Leu Ser Val Ile Ser Phe Gly Val Leu Leu Ala	
195 200 205	
tcc tat atg gtc atc ttg ctc cat ctg aga acc tgg agc tct gaa ggg	672
Ser Tyr Met Val Ile Leu Leu His Leu Arg Thr Trp Ser Ser Glu Gly	
210 215 220	
tgg tgc aaa gcc ctc tcc acc tgt ggg tcc cat ttc gct gtg gtt atc	720

Trp Cys Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ala Val Val Ile  
 225 230 235 240

ttg ttc ttt ggg ccc tgc gtc ttc aac tct ctg agg cct tct acc act 768  
 Leu Phe Phe Gly Pro Cys Val Phe Asn Ser Leu Arg Pro Ser Thr Thr  
 245 250 255

ctg ccc ata gac aag atg gtg gct gtg ttc tac aca gtg ata acc gcg 816  
 Leu Pro Ile Asp Lys Met Val Ala Val Phe Tyr Thr Val Ile Thr Ala  
 260 265 270

atc ctg aac cct gtc atc tac tct ctg aga aat gct gaa atg agg aag 864  
 Ile Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Ala Glu Met Arg Lys  
 275 280 285

gcc atg aag agg ctg tgg att agg aca ttg aga cta aat gag aaa tag 912  
 Ala Met Lys Arg Leu Trp Ile Arg Thr Leu Arg Leu Asn Glu Lys  
 290 295 300

<210> 186  
 <211> 303  
 <212> PRT  
 <213> Homo Sapiens

<400> 186

Met Thr Glu Phe Ile Phe Leu Val Leu Ser Pro Asn Gln Glu Val Gln  
 1 5 10 15

Arg Val Cys Phe Val Ile Phe Leu Phe Leu Tyr Thr Ala Ile Val Leu  
 20 25 30

Gly Asn Phe Leu Ile Val Leu Thr Val Met Thr Ser Arg Ser Leu Gly  
 35 40 45

Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu Ser Phe Met Glu Ile Cys  
 50 55 60

Tyr Ser Ser Ala Thr Ala Pro Lys Leu Ile Ser Asp Leu Leu Ala Glu  
 65 70 75 80

Arg Lys Val Ile Ser Trp Trp Gly Cys Met Ala Gln Leu Phe Phe Leu  
 85 90 95

His Phe Phe Gly Gly Thr Glu Ile Phe Leu Leu Thr Val Met Ala Tyr  
 100 105 110

Asp His Tyr Val Ala Ile Cys Lys Pro Leu Ser Tyr Thr Thr Ile Met  
 115 120 125

Asn Trp Gln Val Cys Thr Val Leu Val Gly Ile Ala Trp Val Gly Gly  
 130 135 140

Phe Met His Ser Phe Ala Gln Ile Leu Leu Ile Phe His Leu Leu Phe  
145 150 155 160

Cys Gly Pro Asn Val Ile Asn His Tyr Phe Cys Asp Leu Val Pro Leu  
165 170 175

Leu Lys Leu Ala Cys Ser Asp Thr Phe Leu Ile Gly Leu Leu Ile Val  
180 185 190

Ala Asn Gly Gly Thr Leu Ser Val Ile Ser Phe Gly Val Leu Leu Ala  
195 200 205

Ser Tyr Met Val Ile Leu Leu His Leu Arg Thr Trp Ser Ser Glu Gly  
210 215 220

Trp Cys Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ala Val Val Ile  
225 230 235 240

Leu Phe Phe Gly Pro Cys Val Phe Asn Ser Leu Arg Pro Ser Thr Thr  
245 250 255

Leu Pro Ile Asp Lys Met Val Ala Val Phe Tyr Thr Val Ile Thr Ala  
260 265 270

Ile Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Ala Glu Met Arg Lys  
275 280 285

Ala Met Lys Arg Leu Trp Ile Arg Thr Leu Arg Leu Asn Glu Lys  
290 295 300

<210> 187  
<211> 1044  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (1041)  
<223>

<400> 187  
atg ggt aac tgg act gca gcg gtg act gag ttt gtt ctg ctg ggg ttt 48  
Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe  
1 5 10 15

tcc ctg agc agg gag gtg gag ctg ctg ctc ctg gtg ctc ctg ctg ccc 96  
Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Val Leu Leu Leu Pro  
20 25 30

acg ttc ctg ctg act ctt ctg ggg aac ctg ctc atc atc tcc act gtg	144
Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val	
35 40 45	
ctg tcc tgc tcc cgc ctc cac acc ccc atg tac ttc ttc ttg tgc aac	192
Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn	
50 55 60	
ctc tct atc ctg gac atc ctc ttc acc tca gtc atc tct cca aaa gtg	240
Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val	
65 70 75 80	
ttg gcc aac tta gga tct agg gat aaa acc atc tcc ttt gcc gga tgt	288
Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys	
85 90 95	
atc acc cag tgc tat ttc tac ttt ttc ttg ggc aca gtt gag ttc ctc	336
Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu	
100 105 110	
ctg ctg acg gtc atg tcc tat gac cgt tat gcc acc atc tgc tgc ccc	384
Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro	
115 120 125	
ctg cgg tac acc acc atc atg aga cct tct gtc tgc att ggg acc gtt	432
Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val	
130 135 140	
gta ttc tct tgg gtg gga ggc ttc ctg tct gtg ctc ttt cca acc atc	480
Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile	
145 150 155 160	
ctc atc tcc cag ctg ccc ttc tgt ggc tcc aat atc att aac cac ttc	528
Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe	
165 170 175	
ttc tgt gac agt gga ccc ttg ctg gcc ctg gcc tgt gca gac acc act	576
Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr	
180 185 190	
gcc atc gag ctg atg gat ttt atg ctt tct tcc atg gtc atc ctc tgc	624
Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys	
195 200 205	
tgc ata gtc ctc gtg gcc tat tcc tat acg tac atc atc ttg acc ata	672
Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile	
210 215 220	
gtg cgc att cct tct gca agt gga agg aag aag gcc ttt aat acc tgt	720
Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys	
225 230 235 240	
gct tcc cac ctg acc ata gtc atc att cct agt ggc atc act gtg ttt	768
Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe	
245 250 255	
atc tat gtg act ccc tcc cag aaa gaa tat ctg gag atc aac aag atc	816
Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile	
260 265 270	

cct ttg gtt ctg agc agt gtg gtg act cca ttc ctc aac ccc ttt ata 864  
 Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile  
 275 280 285

tat act ctg agg aat gac aca gtg cag gga gtc ctc agg gat gtg tgg 912  
 Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp  
 290 295 300

gtc agg gtt cga gga gtt ttt gaa aag agg atg agg gca gtg ctg aga 960  
 Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg  
 305 310 315 320

agc aga tta tcc tcc aac aaa gac cac caa gga agg gct tgc tct tct 1008  
 Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser  
 325 330 335

cca cca tgt gtc tat tct gta aag ctc cag tgt tag 1044  
 Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys  
 340 345

<210> 188  
 <211> 347  
 <212> PRT  
 <213> Homo Sapiens

<400> 188

Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe  
 1 5 10 15

Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Leu Val Leu Leu Leu Pro  
 20 25 30

Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val  
 35 40 45

Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn  
 50 55 60

Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val  
 65 70 75 80

Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys  
 85 90 95

Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu  
 100 105 110

Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro  
 115 120 125

Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val

130	135	140
Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile 145 150 155 160		
Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe 165 170 175		
Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr 180 185 190		
Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys 195 200 205		
Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile 210 215 220		
Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys 225 230 235 240		
Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe 245 250 255		
Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile 260 265 270		
Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile 275 280 285		
Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp 290 295 300		
Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg 305 310 315 320		
Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser 325 330 335		
Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys 340 345		

<210> 189  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>

&lt;221&gt; CDS

&lt;222&gt; (1) .. (936)

&lt;223&gt;

&lt;400&gt; 189

atg gat gaa gcc aat cac tct gtg gtc tct gag ttt gtg ttc ctg gga 48  
 Met Asp Glu Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly  
 1 5 10 15

ctc tct gac tcg cgg aag atc cag ctc ctc ctc ttc ctc ttt ttc tca 96  
 Leu Ser Asp Ser Arg Lys Ile Gln Leu Leu Leu Phe Leu Phe Phe Ser  
 20 25 30

gtg ttc tat gta tca agc ctg atg gga aat ctc ctc att gtg cta act 144  
 Val Phe Tyr Val Ser Ser Leu Met Gly Asn Leu Leu Ile Val Leu Thr  
 35 40 45

gtg acc tct gac cct cgt tta cag tcc ccc atg tac ttc ctg ctg gcc 192  
 Val Thr Ser Asp Pro Arg Leu Gln Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60

aac ctt tcc atc atc aat ttg gta ttt tgt tcc tcc aca gct ccc aag 240  
 Asn Leu Ser Ile Ile Asn Leu Val Phe Cys Ser Ser Thr Ala Pro Lys  
 65 70 75 80

atg att tat gac ctt ttc agg aag cac aag acc atc tct ttt ggg ggc 288  
 Met Ile Tyr Asp Leu Phe Arg Lys His Lys Thr Ile Ser Phe Gly Gly  
 85 90 95

tgt gta gtt cag atc ttc ttt atc cat gca gtt ggg gga act gag atg 336  
 Cys Val Val Gln Ile Phe Phe Ile His Ala Val Gly Gly Thr Glu Met  
 100 105 110

gtg ctg ctc ata gcc atg gct ttt gac cga tat gtg gcc ata tgt aag 384  
 Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

cct ctc cac tac ctg acc atc atg aac cca caa agg tgc att ttg ttt 432  
 Pro Leu His Tyr Leu Thr Ile Met Asn Pro Gln Arg Cys Ile Leu Phe  
 130 135 140

tta gtc att tcc tgg att ata ggt att att cac tca gtg att cag ttg 480  
 Leu Val Ile Ser Trp Ile Ile Gly Ile Ile His Ser Val Ile Gln Leu  
 145 150 155 160

gct ttt gtt gta gac ctg ctg ttc tgt ggc cct aat gaa tta gat agt 528  
 Ala Phe Val Val Asp Leu Leu Phe Cys Gly Pro Asn Glu Leu Asp Ser  
 165 170 175

ttc ttt tgt gat ctt cct cga ttt atc aaa ctg gct tgc ata gag acc 576  
 Phe Phe Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Ile Glu Thr  
 180 185 190

tac aca ttg gga ttc atg gtt act gcc aat agt gga ttt att tct ctg 624  
 Tyr Thr Leu Gly Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
 195 200 205

gct tct ttt tta att ctc ata atc tct tac atc ttt att ttg gtg act 672  
 Ala Ser Phe Leu Ile Leu Ile Ile Ser Tyr Ile Phe Ile Leu Val Thr  
 210 215 220

gtt cag aaa aaa tct tca ggt ggt ata ttc aag gct ttc tct atg ctg 720  
 Val Gln Lys Lys Ser Ser Gly Gly Ile Phe Lys Ala Phe Ser Met Leu  
 225 230 235 240

tca gct cat gtc att gtg gtg gtt ttg gtc ttt ggg cca tta atc ttt 768  
 Ser Ala His Val Ile Val Val Val Leu Val Phe Gly Pro Leu Ile Phe  
 245 250 255

ttc tat att ttt cca ttt ccc aca tca cat ctt gat aaa ttc ctt gcc 816  
 Phe Tyr Ile Phe Pro Phe Pro Thr Ser His Leu Asp Lys Phe Leu Ala  
 260 265 270

atc ttt gat gca gtt atc act ccc gtt ttg aat cca gtc atc tat act 864  
 Ile Phe Asp Ala Val Ile Thr Pro Val Leu Asn Pro Val Ile Tyr Thr  
 275 280 285

ttt aga aat aaa gag atg atg gtg gca atg aga aga cga tgc tct cag 912  
 Phe Arg Asn Lys Glu Met Met Val Ala Met Arg Arg Arg Cys Ser Gln  
 290 295 300

ttt gtg aat tac agt aaa atc ttt taa 939  
 Phe Val Asn Tyr Ser Lys Ile Phe  
 305 310

<210> 190

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 190

Met Asp Glu Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly  
 1 5 10 15

Leu Ser Asp Ser Arg Lys Ile Gln Leu Leu Leu Phe Leu Phe Phe Ser  
 20 25 30

Val Phe Tyr Val Ser Ser Leu Met Gly Asn Leu Leu Ile Val Leu Thr  
 35 40 45

Val Thr Ser Asp Pro Arg Leu Gln Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60

Asn Leu Ser Ile Ile Asn Leu Val Phe Cys Ser Ser Thr Ala Pro Lys  
 65 70 75 80

Met Ile Tyr Asp Leu Phe Arg Lys His Lys Thr Ile Ser Phe Gly Gly  
 85 90 95

Cys Val Val Gln Ile Phe Phe Ile His Ala Val Gly Gly Thr Glu Met  
 100 105 110



Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

Pro Leu His Tyr Leu Thr Ile Met Asn Pro Gln Arg Cys Ile Leu Phe  
 130 135 140

Leu Val Ile Ser Trp Ile Ile Gly Ile Ile His Ser Val Ile Gln Leu  
 145 150 155 160

Ala Phe Val Val Asp Leu Leu Phe Cys Gly Pro Asn Glu Leu Asp Ser  
 165 170 175

Phe Phe Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Ile Glu Thr  
 180 185 190

Tyr Thr Leu Gly Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
 195 200 205

Ala Ser Phe Leu Ile Leu Ile Ile Ser Tyr Ile Phe Ile Leu Val Thr  
 210 215 220

Val Gln Lys Lys Ser Ser Gly Gly Ile Phe Lys Ala Phe Ser Met Leu  
 225 230 235 240

Ser Ala His Val Ile Val Val Val Leu Val Phe Gly Pro Leu Ile Phe  
 245 250 255

Phe Tyr Ile Phe Pro Phe Pro Thr Ser His Leu Asp Lys Phe Leu Ala  
 260 265 270

Ile Phe Asp Ala Val Ile Thr Pro Val Leu Asn Pro Val Ile Tyr Thr  
 275 280 285

Phe Arg Asn Lys Glu Met Met Val Ala Met Arg Arg Arg Cys Ser Gln  
 290 295 300

Phe Val Asn Tyr Ser Lys Ile Phe  
 305 310

<210> 191  
 <211> 996  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (993)  
 <223>

<400> 191  
 atg agt cct gat ggg aac cac agt agt gat cca aca gag ttc gtc ctg 48  
 Met Ser Pro Asp Gly Asn His Ser Ser Asp Pro Thr Glu Phe Val Leu  
 1 5 10 15

gca ggg ctc cca aat ctc aac agc gca aga gtg gaa tta ttt tct gtg 96  
 Ala Gly Leu Pro Asn Leu Asn Ser Ala Arg Val Glu Leu Phe Ser Val  
 20 25 30

ttt ctt ctt gtc tat ctc ctg aat ctg aca ggc aat gtg ttg att gtg 144  
 Phe Leu Leu Val Tyr Leu Leu Asn Leu Thr Gly Asn Val Leu Ile Val  
 35 40 45

ggg gtg gta agg gct gat act cga cta cag acc cct atg tac ttc ttt 192  
 Gly Val Val Arg Ala Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe  
 50 55 60

ctg ggt aac ctg tcc tgc cta gag ata ctg ctc act tct gtc atc att 240  
 Leu Gly Asn Leu Ser Cys Leu Glu Ile Leu Leu Thr Ser Val Ile Ile  
 65 70 75 80

cca aag atg ctg agc aat ttc ctc tca agg caa cac act att tcc ttt 288  
 Pro Lys Met Leu Ser Asn Phe Leu Ser Arg Gln His Thr Ile Ser Phe  
 85 90 95

gct gca tgt atc acc caa ttc tat ttc tac ttc ttt ctc ggg gcc tcc 336  
 Ala Ala Cys Ile Thr Gln Phe Tyr Phe Tyr Phe Phe Leu Gly Ala Ser  
 100 105 110

gag ttc tta ctg ttg gct gtc atg tct gcg gat cgc tac ctg gcc atc 384  
 Glu Phe Leu Leu Leu Ala Val Met Ser Ala Asp Arg Tyr Leu Ala Ile  
 115 120 125

tgt cat cct ctg cgc tac ccc ttg ctc atg agt ggg gct gtg tgc ttt 432  
 Cys His Pro Leu Arg Tyr Pro Leu Leu Met Ser Gly Ala Val Cys Phe  
 130 135 140

cgt gtg gcc ttg gcc tgc tgg gtg ggg gga ctc gtc cct gtg ctt ggt 480  
 Arg Val Ala Leu Ala Cys Trp Val Gly Gly Leu Val Pro Val Leu Gly  
 145 150 155 160

ccc aca gtg gct gtg gcc ttg ctt cct ttc tgt aag cag ggt gct gtg 528  
 Pro Thr Val Ala Val Ala Leu Leu Pro Phe Cys Lys Gln Gly Ala Val  
 165 170 175

gta cag cac ttc ttc tgc gac agt ggc cca ctg ctc cgc ctg gct tgc 576  
 Val Gln His Phe Phe Cys Asp Ser Gly Pro Leu Leu Arg Leu Ala Cys  
 180 185 190

acc aac acc aag aag ctg gag gag act gac ttt gtc ctg gcc tcc ctc 624  
 Thr Asn Thr Lys Lys Leu Glu Glu Thr Asp Phe Val Leu Ala Ser Leu  
 195 200 205

gtc att gta tct tcc ttg ctg atc act gct gtg tcc tac ggc ctc att 672  
 Val Ile Val Ser Ser Leu Leu Ile Thr Ala Val Ser Tyr Gly Leu Ile  
 210 215 220

gtg ctg gca gtc ctg agc atc ccc tct gct tca ggc cgt cag aag gcc 720  
 Val Leu Ala Val Leu Ser Ile Pro Ser Ala Ser Gly Arg Gln Lys Ala

225	230	235	240	
ttc tct acc tgt acc tcc cac ttg ata gtg gtg acc ctc ttc tat gga				768
Phe Ser Thr Cys Thr Ser His Leu Ile Val Val Thr Leu Phe Tyr Gly	245	250	255	
agt gcc att ttt ctc tat gtg cgg cca tcg cag agt ggt tct gtg gac				816
Ser Ala Ile Phe Leu Tyr Val Arg Pro Ser Gln Ser Gly Ser Val Asp	260	265	270	
act aac tgg gca gtg aca gta ata acg aca ttt gtg aca cca ctg ttg				864
Thr Asn Trp Ala Val Thr Val Ile Thr Thr Phe Val Thr Pro Leu Leu	275	280	285	
aat cca ttc atc tat gcc tta cgt aat gag caa gtc aag gaa gct ttg				912
Asn Pro Phe Ile Tyr Ala Leu Arg Asn Glu Gln Val Lys Glu Ala Leu	290	295	300	
aag gac atg ttt agg aag gta gtg gca ggc gtt tta ggg aat ctt tta				960
Lys Asp Met Phe Arg Lys Val Val Ala Gly Val Leu Gly Asn Leu Leu	305	310	315	320
ctt gat aaa tgt ctc agt gag aaa gca gta aag taa				996
Leu Asp Lys Cys Leu Ser Glu Lys Ala Val Lys	325	330		
 <210> 192				
<211> 331				
<212> PRT				
<213> Homo Sapiens				
 <400> 192				
Met Ser Pro Asp Gly Asn His Ser Ser Asp Pro Thr Glu Phe Val Leu				
1	5	10	15	
Ala Gly Leu Pro Asn Leu Asn Ser Ala Arg Val Glu Leu Phe Ser Val				
	20	25	30	
Phe Leu Leu Val Tyr Leu Leu Asn Leu Thr Gly Asn Val Leu Ile Val				
	35	40	45	
Gly Val Val Arg Ala Asp Thr Arg Leu Gln Thr Pro Met Tyr Phe Phe				
	50	55	60	
Leu Gly Asn Leu Ser Cys Leu Glu Ile Leu Leu Thr Ser Val Ile Ile				
65	70	75	80	
Pro Lys Met Leu Ser Asn Phe Leu Ser Arg Gln His Thr Ile Ser Phe				
	85	90	95	
Ala Ala Cys Ile Thr Gln Phe Tyr Phe Tyr Phe Phe Leu Gly Ala Ser				
	100	105	110	

Glu Phe Leu Leu Leu Ala Val Met Ser Ala Asp Arg Tyr Leu Ala Ile  
 115 120 125

Cys His Pro Leu Arg Tyr Pro Leu Leu Met Ser Gly Ala Val Cys Phe  
 130 135 140

Arg Val Ala Leu Ala Cys Trp Val Gly Gly Leu Val Pro Val Leu Gly  
 145 150 155 160

Pro Thr Val Ala Val Ala Leu Leu Pro Phe Cys Lys Gln Gly Ala Val  
 165 170 175

Val Gln His Phe Phe Cys Asp Ser Gly Pro Leu Leu Arg Leu Ala Cys  
 180 185 190

Thr Asn Thr Lys Lys Leu Glu Glu Thr Asp Phe Val Leu Ala Ser Leu  
 195 200 205

Val Ile Val Ser Ser Leu Leu Ile Thr Ala Val Ser Tyr Gly Leu Ile  
 210 215 220

Val Leu Ala Val Leu Ser Ile Pro Ser Ala Ser Gly Arg Gln Lys Ala  
 225 230 235 240

Phe Ser Thr Cys Thr Ser His Leu Ile Val Val Thr Leu Phe Tyr Gly  
 245 250 255

Ser Ala Ile Phe Leu Tyr Val Arg Pro Ser Gln Ser Gly Ser Val Asp  
 260 265 270

Thr Asn Trp Ala Val Thr Val Ile Thr Thr Phe Val Thr Pro Leu Leu  
 275 280 285

Asn Pro Phe Ile Tyr Ala Leu Arg Asn Glu Gln Val Lys Glu Ala Leu  
 290 295 300

Lys Asp Met Phe Arg Lys Val Val Ala Gly Val Leu Gly Asn Leu Leu  
 305 310 315 320

Leu Asp Lys Cys Leu Ser Glu Lys Ala Val Lys  
 325 330

<210> 193

<211> 945

<212> DNA

<213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (942)

&lt;223&gt;

&lt;400&gt; 193

atg	tcg	aat	gag	gac	atg	gaa	cag	gat	aat	aca	aca	ttg	ctg	aca	gag	48
Met	Ser	Asn	Glu	Asp	Met	Glu	Gln	Asp	Asn	Thr	Thr	Leu	Leu	Thr	Glu	
1				5					10					15		

ttt	gtt	ctc	aca	gga	ctt	aca	tat	cag	cca	gag	tgg	aaa	atg	ccc	ctg	96
Phe	Val	Leu	Thr	Gly	Leu	Thr	Tyr	Gln	Pro	Glu	Trp	Lys	Met	Pro	Leu	
			20					25					30			

ttc	ttg	gtg	ttc	ttg	gtg	atc	tat	ctc	atc	act	att	gtg	tgg	aac	ctt	144
Phe	Leu	Val	Phe	Leu	Val	Ile	Tyr	Leu	Ile	Thr	Ile	Val	Trp	Asn	Leu	
		35				40						45				

ggg	ctg	att	gct	ctt	atc	tgg	aat	gac	cca	caa	ctt	cac	atc	ccc	atg	192
Gly	Leu	Ile	Ala	Leu	Ile	Trp	Asn	Asp	Pro	Gln	Leu	His	Ile	Pro	Met	
	50					55					60					

tac	ttt	ttt	ctt	ggg	agt	tta	gcc	ttt	gtt	gat	gct	tgg	ata	tct	tcc	240
Tyr	Phe	Phe	Leu	Gly	Ser	Leu	Ala	Phe	Val	Asp	Ala	Trp	Ile	Ser	Ser	
65					70					75					80	

aca	gta	act	ccc	aaa	atg	ttg	gtt	aat	ttc	ttg	gcc	aaa	aac	agg	atg	288
Thr	Val	Thr	Pro	Lys	Met	Leu	Val	Asn	Phe	Leu	Ala	Lys	Asn	Arg	Met	
				85					90					95		

ata	tct	ctg	tct	gaa	tgc	atg	att	caa	ttt	ttt	tcc	ttt	gca	ttt	ggg	336
Ile	Ser	Leu	Ser	Glu	Cys	Met	Ile	Gln	Phe	Phe	Ser	Phe	Ala	Phe	Gly	
			100					105					110			

gga	act	aca	gaa	tgt	ttt	ctc	ttg	gca	aca	atg	gca	tat	gat	cgc	tat	384
Gly	Thr	Thr	Glu	Cys	Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	
		115					120					125				

gta	gcc	ata	tgc	aaa	cct	tta	cta	tat	cca	gtg	att	atg	aac	aat	tca	432
Val	Ala	Ile	Cys	Lys	Pro	Leu	Leu	Tyr	Pro	Val	Ile	Met	Asn	Asn	Ser	
	130					135					140					

cta	tgc	ata	cgg	ctg	tta	gcc	ttc	tca	ttt	tta	ggg	ggc	ttc	ctc	cat	480
Leu	Cys	Ile	Arg	Leu	Leu	Ala	Phe	Ser	Phe	Leu	Gly	Gly	Phe	Leu	His	
145					150					155					160	

gcc	tta	att	cat	gaa	gtc	ctt	ata	ttc	aga	tta	acc	ttc	tgc	aat	tct	528
Ala	Leu	Ile	His	Glu	Val	Leu	Ile	Phe	Arg	Leu	Thr	Phe	Cys	Asn	Ser	
				165					170					175		

aac	ata	ata	cat	cat	ttt	tac	tgt	gat	att	ata	cca	ctg	ttt	atg	att	576
Asn	Ile	Ile	His	His	Phe	Tyr	Cys	Asp	Ile	Ile	Pro	Leu	Phe	Met	Ile	
			180					185					190			

tcc	tgt	act	gac	cct	tct	att	aat	ttt	cta	atg	gtt	ttt	att	ttg	tct	624
Ser	Cys	Thr	Asp	Pro	Ser	Ile	Asn	Phe	Leu	Met	Val	Phe	Ile	Leu	Ser	
		195					200					205				

ggc	tca	att	cag	gta	ttc	acc	att	gtg	aca	gtt	ctt	aat	tct	tac	aca	672
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Gly Ser Ile Gln Val Phe Thr Ile Val Thr Val Leu Asn Ser Tyr Thr  
 210 215 220  
 ttt gct ctt ttc aca atc cta aaa aag aag tct gtt aga ggc gta agg 720  
 Phe Ala Leu Phe Thr Ile Leu Lys Lys Lys Ser Val Arg Gly Val Arg  
 225 230 235 240  
 aaa gcc ttt tcc acc tgt gga gcc cat ctc tta tct gtc tct tta tat 768  
 Lys Ala Phe Ser Thr Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr  
 245 250 255  
 tat ggc cca ctt atc ttc atg tat ttg cgc cct gca tct cca caa gca 816  
 Tyr Gly Pro Leu Ile Phe Met Tyr Leu Arg Pro Ala Ser Pro Gln Ala  
 260 265 270  
 gat gac caa gat atg ata gac tct gtc ttt tat aca atc ata att cct 864  
 Asp Asp Gln Asp Met Ile Asp Ser Val Phe Tyr Thr Ile Ile Ile Pro  
 275 280 285  
 ttg cta aat ccc att atc tac agt ctg aga aat aaa caa gta ata gat 912  
 Leu Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Asp  
 290 295 300  
 tca ttc aca aaa atg gta aaa aga aat gtt tag 945  
 Ser Phe Thr Lys Met Val Lys Arg Asn Val  
 305 310

<210> 194  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 194

Met Ser Asn Glu Asp Met Glu Gln Asp Asn Thr Thr Leu Leu Thr Glu  
1 5 10 15

Phe Val Leu Thr Gly Leu Thr Tyr Gln Pro Glu Trp Lys Met Pro Leu  
20 25 30

Phe Leu Val Phe Leu Val Ile Tyr Leu Ile Thr Ile Val Trp Asn Leu  
35 40 45

Gly Leu Ile Ala Leu Ile Trp Asn Asp Pro Gln Leu His Ile Pro Met  
50 55 60

Tyr Phe Phe Leu Gly Ser Leu Ala Phe Val Asp Ala Trp Ile Ser Ser  
65 70 75 80

Thr Val Thr Pro Lys Met Leu Val Asn Phe Leu Ala Lys Asn Arg Met  
85 90 95

Ile Ser Leu Ser Glu Cys Met Ile Gln Phe Phe Ser Phe Ala Phe Gly  
100 105 110

Gly Thr Thr Glu Cys Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Lys Pro Leu Leu Tyr Pro Val Ile Met Asn Asn Ser  
 130 135 140

Leu Cys Ile Arg Leu Leu Ala Phe Ser Phe Leu Gly Gly Phe Leu His  
 145 150 155 160

Ala Leu Ile His Glu Val Leu Ile Phe Arg Leu Thr Phe Cys Asn Ser  
 165 170 175

Asn Ile Ile His His Phe Tyr Cys Asp Ile Ile Pro Leu Phe Met Ile  
 180 185 190

Ser Cys Thr Asp Pro Ser Ile Asn Phe Leu Met Val Phe Ile Leu Ser  
 195 200 205

Gly Ser Ile Gln Val Phe Thr Ile Val Thr Val Leu Asn Ser Tyr Thr  
 210 215 220

Phe Ala Leu Phe Thr Ile Leu Lys Lys Lys Ser Val Arg Gly Val Arg  
 225 230 235 240

Lys Ala Phe Ser Thr Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr  
 245 250 255

Tyr Gly Pro Leu Ile Phe Met Tyr Leu Arg Pro Ala Ser Pro Gln Ala  
 260 265 270

Asp Asp Gln Asp Met Ile Asp Ser Val Phe Tyr Thr Ile Ile Ile Pro  
 275 280 285

Leu Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Asp  
 290 295 300

Ser Phe Thr Lys Met Val Lys Arg Asn Val  
 305 310

<210> 195  
 <211> 978  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS

&lt;222&gt; (1) .. (975)

&lt;223&gt;

&lt;400&gt; 195

atg	ttc	ctt	tac	ctt	tgc	ttc	att	ttt	cag	agg	aca	tgc	agt	gag	gag	48
Met	Phe	Leu	Tyr	Leu	Cys	Phe	Ile	Phe	Gln	Arg	Thr	Cys	Ser	Glu	Glu	
1				5					10					15		

atg	gaa	gag	gaa	aat	gca	aca	ttg	ctg	aca	gag	ttt	gtt	ctc	aca	gga	96
Met	Glu	Glu	Glu	Asn	Ala	Thr	Leu	Leu	Thr	Glu	Phe	Val	Leu	Thr	Gly	
			20					25					30			

ttt	tta	cat	caa	cct	gac	tgt	aaa	ata	ccg	ctc	ttc	ctg	gca	ttc	ttg	144
Phe	Leu	His	Gln	Pro	Asp	Cys	Lys	Ile	Pro	Leu	Phe	Leu	Ala	Phe	Leu	
		35					40					45				

gta	ata	tat	ctc	atc	acc	atc	atg	ggg	aat	ctt	ggg	cta	att	gtt	ctc	192
Val	Ile	Tyr	Leu	Ile	Thr	Ile	Met	Gly	Asn	Leu	Gly	Leu	Ile	Val	Leu	
	50					55					60					

atc	tgg	aaa	gac	cct	cac	ctt	cat	atc	cca	atg	tac	tta	ttc	ctt	ggg	240
Ile	Trp	Lys	Asp	Pro	His	Leu	His	Ile	Pro	Met	Tyr	Leu	Phe	Leu	Gly	
65					70					75					80	

agt	tta	gcc	ttt	gtg	gat	gct	tcg	tta	tca	tcc	aca	gtg	act	ccg	aag	288
Ser	Leu	Ala	Phe	Val	Asp	Ala	Ser	Leu	Ser	Ser	Thr	Val	Thr	Pro	Lys	
				85				90						95		

atg	ctg	atc	aac	ttc	tta	gct	aag	agt	aag	atg	ata	tct	ctc	tct	gaa	336
Met	Leu	Ile	Asn	Phe	Leu	Ala	Lys	Ser	Lys	Met	Ile	Ser	Leu	Ser	Glu	
			100					105					110			

tgc	atg	gta	caa	ttt	ttt	tcc	ctt	gta	acc	act	gta	acc	aca	gaa	tgt	384
Cys	Met	Val	Gln	Phe	Phe	Ser	Leu	Val	Thr	Thr	Val	Thr	Thr	Glu	Cys	
		115					120					125				

ttt	ctc	ttg	gca	aca	atg	gca	tat	gat	cgc	tat	gta	gcc	att	tgc	aaa	432
Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	
	130					135					140					

gct	tta	ctt	tat	cca	gtc	att	atg	acc	aat	gaa	cta	tgc	att	cag	cta	480
Ala	Leu	Leu	Tyr	Pro	Val	Ile	Met	Thr	Asn	Glu	Leu	Cys	Ile	Gln	Leu	
145					150					155					160	

tta	gtc	ttg	tca	ttt	ata	ggg	ggc	ctt	ctt	cat	gct	tta	atc	cat	gaa	528
Leu	Val	Leu	Ser	Phe	Ile	Gly	Gly	Leu	Leu	His	Ala	Leu	Ile	His	Glu	
				165				170						175		

gct	ttt	tca	ttc	aga	tta	acc	ttc	tgt	aat	tcc	aac	ata	ata	caa	cac	576
Ala	Phe	Ser	Phe	Arg	Leu	Thr	Phe	Cys	Asn	Ser	Asn	Ile	Ile	Gln	His	
			180					185						190		

ttt	tac	tgt	gac	att	atc	cca	ttg	tta	aag	att	tcc	tgt	act	gat	tcc	624
Phe	Tyr	Cys	Asp	Ile	Ile	Pro	Leu	Leu	Lys	Ile	Ser	Cys	Thr	Asp	Ser	
		195					200					205				

tct	att	aac	ttt	cta	atg	gtt	ttt	att	ttc	gca	ggg	tct	gtt	caa	gtt	672
Ser	Ile	Asn	Phe	Leu	Met	Val	Phe	Ile	Phe	Ala	Gly	Ser	Val	Gln	Val	
	210					215					220					



ttt acc att gga act att ctt ata tct tat aca att atc ctc ttt aca 720  
 Phe Thr Ile Gly Thr Ile Leu Ile Ser Tyr Thr Ile Ile Leu Phe Thr  
 225 230 235 240  
  
 atc tta gaa aag aag tct atc aaa ggg ata cga aaa gct gtc tcc acc 768  
 Ile Leu Glu Lys Lys Ser Ile Lys Gly Ile Arg Lys Ala Val Ser Thr  
 245 250 255  
  
 tgt ggg gct cat ctc tta tct gta tct tta tac tat ggc ccc ctc acc 816  
 Cys Gly Ala His Leu Leu Ser Val Ser Leu Tyr Tyr Gly Pro Leu Thr  
 260 265 270  
  
 ttc aaa tat ctg ggc tct gca tct ccg caa gca gat gac caa gat atg 864  
 Phe Lys Tyr Leu Gly Ser Ala Ser Pro Gln Ala Asp Asp Gln Asp Met  
 275 280 285  
  
 atg gag tct cta ttt tac act gtc ata gtt cct tta tta aat ccc atg 912  
 Met Glu Ser Leu Phe Tyr Thr Val Ile Val Pro Leu Leu Asn Pro Met  
 290 295 300  
  
 atc tac agc ctg aga aac aag caa gta ata gct tca ttc aca aaa atg 960  
 Ile Tyr Ser Leu Arg Asn Lys Gln Val Ile Ala Ser Phe Thr Lys Met  
 305 310 315 320  
  
 ttc aaa agc aat gtt tag 978  
 Phe Lys Ser Asn Val  
 325

<210> 196  
 <211> 325  
 <212> PRT  
 <213> Homo Sapiens

<400> 196

Met Phe Leu Tyr Leu Cys Phe Ile Phe Gln Arg Thr Cys Ser Glu Glu  
1 5 10 15

Met Glu Glu Glu Asn Ala Thr Leu Leu Thr Glu Phe Val Leu Thr Gly  
20 25 30

Phe Leu His Gln Pro Asp Cys Lys Ile Pro Leu Phe Leu Ala Phe Leu  
35 40 45

Val Ile Tyr Leu Ile Thr Ile Met Gly Asn Leu Gly Leu Ile Val Leu  
50 55 60

Ile Trp Lys Asp Pro His Leu His Ile Pro Met Tyr Leu Phe Leu Gly  
65 70 75 80

Ser Leu Ala Phe Val Asp Ala Ser Leu Ser Ser Thr Val Thr Pro Lys  
85 90 95

Met Leu Ile Asn Phe Leu Ala Lys Ser Lys Met Ile Ser Leu Ser Glu

100					105					110					
Cys	Met	Val	Gln	Phe	Phe	Ser	Leu	Val	Thr	Thr	Val	Thr	Thr	Glu	Cys
		115					120					125			
Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys
	130					135					140				
Ala	Leu	Leu	Tyr	Pro	Val	Ile	Met	Thr	Asn	Glu	Leu	Cys	Ile	Gln	Leu
145					150					155					160
Leu	Val	Leu	Ser	Phe	Ile	Gly	Gly	Leu	Leu	His	Ala	Leu	Ile	His	Glu
				165					170					175	
Ala	Phe	Ser	Phe	Arg	Leu	Thr	Phe	Cys	Asn	Ser	Asn	Ile	Ile	Gln	His
			180					185					190		
Phe	Tyr	Cys	Asp	Ile	Ile	Pro	Leu	Leu	Lys	Ile	Ser	Cys	Thr	Asp	Ser
		195					200					205			
Ser	Ile	Asn	Phe	Leu	Met	Val	Phe	Ile	Phe	Ala	Gly	Ser	Val	Gln	Val
	210					215					220				
Phe	Thr	Ile	Gly	Thr	Ile	Leu	Ile	Ser	Tyr	Thr	Ile	Ile	Leu	Phe	Thr
225					230					235					240
Ile	Leu	Glu	Lys	Lys	Ser	Ile	Lys	Gly	Ile	Arg	Lys	Ala	Val	Ser	Thr
				245					250					255	
Cys	Gly	Ala	His	Leu	Leu	Ser	Val	Ser	Leu	Tyr	Tyr	Gly	Pro	Leu	Thr
			260					265					270		
Phe	Lys	Tyr	Leu	Gly	Ser	Ala	Ser	Pro	Gln	Ala	Asp	Asp	Gln	Asp	Met
		275					280					285			
Met	Glu	Ser	Leu	Phe	Tyr	Thr	Val	Ile	Val	Pro	Leu	Leu	Asn	Pro	Met
	290					295					300				
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Gln	Val	Ile	Ala	Ser	Phe	Thr	Lys	Met
305					310					315					320
Phe	Lys	Ser	Asn	Val											
				325											
<210>	197														
<211>	885														

<212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(885)  
 <223>

<400> 197  
 atg cag act gac ttt gtc ctg ttg tgc ttc aga cag aat cca cag gag 48  
 Met Gln Thr Asp Phe Val Leu Leu Cys Phe Arg Gln Asn Pro Gln Glu  
 1 5 10 15  
 ctg aaa gta ctt ttt gtt atg ttc ttg ctc ttc tac att ttg acc atg 96  
 Leu Lys Val Leu Phe Val Met Phe Leu Leu Phe Tyr Ile Leu Thr Met  
 20 25 30  
 gtg ggc aac ctg ctc att gta gtg acc gta act gtc agt gag acc ctg 144  
 Val Gly Asn Leu Leu Ile Val Val Thr Val Thr Val Ser Glu Thr Leu  
 35 40 45  
 ggc tca cca atg tcc ttc ttt ctt gct ggc tta aca ttt ata gat atc 192  
 Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu Thr Phe Ile Asp Ile  
 50 55 60  
 att tat tct tca tcc att tcc ccc aga ttg att tca gac ttg ttc ttt 240  
 Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile Ser Asp Leu Phe Phe  
 65 70 75 80  
 ggg aat aat tcc ata tcc ttc caa tct ttc atg gcc cag ctc ttt atc 288  
 Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met Ala Gln Leu Phe Ile  
 85 90 95  
 gag cac ctt ttt ggt ggg tca gag gtc ttt ctc ctg ttg gtg atg gcc 336  
 Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu Leu Leu Val Met Ala  
 100 105 110  
 tat gac cgc tat gtg gcc atc tgt aag ccc ttg cat tat ttg gtt atc 384  
 Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Leu Val Ile  
 115 120 125  
 atg aga caa tgg gtg tgt gtt ttg ctg ctg gta gtg tcc tgg gtt gga 432  
 Met Arg Gln Trp Val Cys Val Leu Leu Leu Val Val Ser Trp Val Gly  
 130 135 140  
 gga ttt ctg caa tca gta ttt caa ctt agc att att tat ggg ctc cca 480  
 Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile Ile Tyr Gly Leu Pro  
 145 150 155 160  
 ttc tgt ggc ccc aat gtc att gat cat ttt ttc tgt gac atg tat ccc 528  
 Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe Cys Asp Met Tyr Pro  
 165 170 175  
 tta ttg aaa ctg gcc tgc act gac acc cat gtt att ggc ctc tta gtg 576  
 Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val Ile Gly Leu Leu Val  
 180 185 190  
 gtg gcc aat gga gga ctg tct tgc act att gcg ttt ctg ctc tta ctc 624  
 Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala Phe Leu Leu Leu Leu  
 195 200 205

atc tct tat ggt gtc atc ctg cac tct cta aag aaa ctt agt cag aaa 672  
 Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys Lys Leu Ser Gln Lys  
 210 215 220  
 ggg agg caa aaa gcc cac tca acc tgc agt tcc cac atc act gtg gtt 720  
 Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser His Ile Thr Val Val  
 225 230 235 240  
 gtc ttc ttc ttt gtt cct tgt att ttt atg tgt gct aga cct gct agg 768  
 Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys Ala Arg Pro Ala Arg  
 245 250 255  
 acc ttc tcc att gac aaa tca gtg agt gtg ttt tat aca gtc ata acc 816  
 Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe Tyr Thr Val Ile Thr  
 260 265 270  
 cca atg ctg aac ccc tta atc tac act ctg aga aat tct gag atg aca 864  
 Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Ser Glu Met Thr  
 275 280 285  
 agt gct atg aag aag ctt tag 885  
 Ser Ala Met Lys Lys Leu  
 290

<210> 198  
 <211> 294  
 <212> PRT  
 <213> Homo Sapiens

<400> 198

Met Gln Thr Asp Phe Val Leu Leu Cys Phe Arg Gln Asn Pro Gln Glu  
 1 5 10 15  
 Leu Lys Val Leu Phe Val Met Phe Leu Leu Phe Tyr Ile Leu Thr Met  
 20 25 30  
 Val Gly Asn Leu Leu Ile Val Val Thr Val Thr Val Ser Glu Thr Leu  
 35 40 45  
 Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu Thr Phe Ile Asp Ile  
 50 55 60  
 Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile Ser Asp Leu Phe Phe  
 65 70 75 80  
 Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met Ala Gln Leu Phe Ile  
 85 90 95  
 Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu Leu Leu Val Met Ala  
 100 105 110

Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu His Tyr Leu Val Ile  
 115 120 125  
 Met Arg Gln Trp Val Cys Val Leu Leu Leu Val Val Ser Trp Val Gly  
 130 135 140  
 Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile Ile Tyr Gly Leu Pro  
 145 150 155 160  
 Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe Cys Asp Met Tyr Pro  
 165 170 175  
 Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val Ile Gly Leu Leu Val  
 180 185 190  
 Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala Phe Leu Leu Leu Leu  
 195 200 205  
 Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys Lys Leu Ser Gln Lys  
 210 215 220  
 Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser His Ile Thr Val Val  
 225 230 235 240  
 Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys Ala Arg Pro Ala Arg  
 245 250 255  
 Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe Tyr Thr Val Ile Thr  
 260 265 270  
 Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Ser Glu Met Thr  
 275 280 285  
 Ser Ala Met Lys Lys Leu  
 290

<210> 199  
 <211> 1014  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(1011)  
 <223>

<400> 199  
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48

Met	Glu	Gly	Lys	Asn	Gln	Thr	Asn	Ile	Ser	Glu	Phe	Leu	Leu	Leu	Gly	
1				5					10						15	
ttc	tca	agt	tgg	caa	caa	cag	cag	gtg	cta	ctc	ttt	gca	ctt	ttc	ctg	96
Phe	Ser	Ser	Trp	Gln	Gln	Gln	Gln	Val	Leu	Leu	Phe	Ala	Leu	Phe	Leu	
			20					25					30			
tgt	ctc	tat	tta	aca	ggg	ctg	ttt	gga	aac	tta	ctc	atc	ttg	ctg	gcc	144
Cys	Leu	Tyr	Leu	Thr	Gly	Leu	Phe	Gly	Asn	Leu	Leu	Ile	Leu	Leu	Ala	
		35					40					45				
att	ggc	tcg	gat	cac	tgc	ctt	cac	aca	ccc	atg	tat	ttc	ttc	ctt	gcc	192
Ile	Gly	Ser	Asp	His	Cys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ala	
	50					55					60					
aat	ctg	tcc	ttg	gta	gac	ctc	tgc	ctt	ccc	tca	gcc	aca	gtc	ccc	aag	240
Asn	Leu	Ser	Leu	Val	Asp	Leu	Cys	Leu	Pro	Ser	Ala	Thr	Val	Pro	Lys	
65					70				75						80	
atg	cta	ctg	aac	atc	caa	acc	caa	acc	caa	acc	atc	tcc	tat	ccc	ggc	288
Met	Leu	Leu	Asn	Ile	Gln	Thr	Gln	Thr	Gln	Thr	Ile	Ser	Tyr	Pro	Gly	
				85					90					95		
tgc	ctg	gct	cag	atg	tat	ttc	tgt	atg	atg	ttt	gcc	aat	atg	gac	aat	336
Cys	Leu	Ala	Gln	Met	Tyr	Phe	Cys	Met	Met	Phe	Ala	Asn	Met	Asp	Asn	
			100					105					110			
ttt	ctt	ctc	aca	gtg	atg	gca	tat	gac	cgt	tac	gtg	gcc	atc	tgt	cac	384
Phe	Leu		Thr	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	
		115					120					125				
cct	tta	cat	tac	tcc	acc	att	atg	gcc	ctg	cgc	ctc	tgt	gcc	tct	ctg	432
Pro	Leu	His	Tyr	Ser	Thr	Ile	Met	Ala	Leu	Arg	Leu	Cys	Ala	Ser	Leu	
		130				135					140					
gta	gct	gca	cct	tgg	gtc	att	gcc	att	ttg	aac	cct	ctc	ttg	cac	act	480
Val	Ala	Ala	Pro	Trp	Val	Ile	Ala	Ile	Leu	Asn	Pro	Leu	Leu	His	Thr	
145					150				155						160	
ctt	atg	atg	gcc	cat	ctg	cac	ttc	tgc	tct	gat	aat	gtt	atc	cac	cat	528
Leu	Met	Met	Ala	His	Leu	His	Phe	Cys	Ser	Asp	Asn	Val	Ile	His	His	
				165					170					175		
ttc	ttc	tgt	gat	atc	aac	tct	ctc	ctc	cct	ctg	tcc	tgt	tcc	gac	acc	576
Phe	Phe	Cys	Asp	Ile	Asn	Ser	Leu	Leu	Pro	Leu	Ser	Cys	Ser	Asp	Thr	
			180					185					190			
agt	ctt	aat	cag	ttg	agt	gtt	ctg	gct	acg	gtg	ggg	ctg	atc	ttt	gtg	624
Ser	Leu	Asn	Gln	Leu	Ser	Val	Leu	Ala	Thr	Val	Gly	Leu	Ile	Phe	Val	
		195					200					205				
gta	cct	tca	gtg	tgt	atc	ctg	gta	tcc	tat	atc	ctc	att	gtt	tct	gct	672
Val	Pro	Ser	Val	Cys	Ile	Leu	Val	Ser	Tyr	Ile	Leu	Ile	Val	Ser	Ala	
	210					215					220					
gtg	atg	aaa	gtc	cct	tct	gcc	caa	gga	aaa	ctc	aag	gct	ttc	tct	acc	720
Val	Met	Lys	Val	Pro	Ser	Ala	Gln	Gly	Lys	Leu	Lys	Ala	Phe	Ser	Thr	
225					230					235					240	
tgt	gga	tct	cac	ctt	gcc	ttg	gtc	att	ctt	ttc	tat	gga	gca	aac	aca	768
Cys	Gly	Ser	His	Leu	Ala	Leu	Val	Ile	Leu	Phe	Tyr	Gly	Ala	Asn	Thr	

	245	250	255	
ggg gtc tat atg agc ccc tta tcc aat cac tct act gaa aaa gac tca				816
Gly Val Tyr Met Ser Pro Leu Ser Asn His Ser Thr Glu Lys Asp Ser				
	260	265	270	
gcc gca tca gtc att ttt atg gtt gta gca cct gtg ttg aat cca ttc				864
Ala Ala Ser Val Ile Phe Met Val Val Ala Pro Val Leu Asn Pro Phe				
	275	280	285	
att tac agt tta aga aac aat gaa ctg aag ggg act tta aaa aag acc				912
Ile Tyr Ser Leu Arg Asn Asn Glu Leu Lys Gly Thr Leu Lys Lys Thr				
	290	295	300	
cta agc cgg ccg ggc gcg gtg gct cac gcc tgt aat ccc agc act ttg				960
Leu Ser Arg Pro Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu				
	305	310	315	320
gga ggc cga ggc ggg tgg atc atg agg tca gga gat cga gac cat cct				1008
Gly Gly Arg Gly Gly Trp Ile Met Arg Ser Gly Asp Arg Asp His Pro				
	325	330	335	
ggc taa				1014
Gly				

<210> 200  
 <211> 337  
 <212> PRT  
 <213> Homo Sapiens

<400> 200

Met Glu Gly Lys Asn Gln Thr Asn Ile Ser Glu Phe Leu Leu Leu Gly  
 1 5 10 15

Phe Ser Ser Trp Gln Gln Gln Gln Val Leu Leu Phe Ala Leu Phe Leu  
 20 25 30

Cys Leu Tyr Leu Thr Gly Leu Phe Gly Asn Leu Leu Ile Leu Leu Ala  
 35 40 45

Ile Gly Ser Asp His Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Asn Leu Ser Leu Val Asp Leu Cys Leu Pro Ser Ala Thr Val Pro Lys  
 65 70 75 80

Met Leu Leu Asn Ile Gln Thr Gln Thr Gln Thr Ile Ser Tyr Pro Gly  
 85 90 95

Cys Leu Ala Gln Met Tyr Phe Cys Met Met Phe Ala Asn Met Asp Asn  
 100 105 110

Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125  
 Pro Leu His Tyr Ser Thr Ile Met Ala Leu Arg Leu Cys Ala Ser Leu  
 130 135 140  
 Val Ala Ala Pro Trp Val Ile Ala Ile Leu Asn Pro Leu Leu His Thr  
 145 150 155 160  
 Leu Met Met Ala His Leu His Phe Cys Ser Asp Asn Val Ile His His  
 165 170 175  
 Phe Phe Cys Asp Ile Asn Ser Leu Leu Pro Leu Ser Cys Ser Asp Thr  
 180 185 190  
 Ser Leu Asn Gln Leu Ser Val Leu Ala Thr Val Gly Leu Ile Phe Val  
 195 200 205  
 Val Pro Ser Val Cys Ile Leu Val Ser Tyr Ile Leu Ile Val Ser Ala  
 210 215 220  
 Val Met Lys Val Pro Ser Ala Gln Gly Lys Leu Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Gly Ser His Leu Ala Leu Val Ile Leu Phe Tyr Gly Ala Asn Thr  
 245 250 255  
 Gly Val Tyr Met Ser Pro Leu Ser Asn His Ser Thr Glu Lys Asp Ser  
 260 265 270  
 Ala Ala Ser Val Ile Phe Met Val Val Ala Pro Val Leu Asn Pro Phe  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Asn Glu Leu Lys Gly Thr Leu Lys Lys Thr  
 290 295 300  
 Leu Ser Arg Pro Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu  
 305 310 315 320  
 Gly Gly Arg Gly Gly Trp Ile Met Arg Ser Gly Asp Arg Asp His Pro  
 325 330 335

Gly



<210> 201  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

<400> 201  
 atg gcc aag aat aat ctc acc aga gta acc gaa ttc att ctc atg ggc 48  
 Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly  
 1 5 10 15  
 ttt atg gac cac ccc aaa ttg gag att ccc ctc ttt ctg gtg ttt ctg 96  
 Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu  
 20 25 30  
 agt ttc tac cta gtc acc ctt ctt ggg aat gtg ggg atg att atg tta 144  
 Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu  
 35 40 45  
 atc caa gta gat gtc aaa ctc tac acc cca atg tac ttc ttc ctg agc 192  
 Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60  
 cac ctc tcc ctg ctg gat gcc tgt tac acc tca gtc atc acc cct cag 240  
 His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln  
 65 70 75 80  
 atc cta gcc aca ttg gcc aca ggc aaa acg gtc atc tcc tac ggc cac 288  
 Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His  
 85 90 95  
 tgt gct gcc cag ttc ttt tta ttc acc atc tgt gca ggc aca gag tgc 336  
 Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Ser  
 100 105 110  
 ttt ctg ctg gca gtg atg gcc tat gat cgc tat gct gcc att cgc aac 384  
 Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn  
 115 120 125  
 cca ctg ctc tat acc gtg gcc atg aat ccc agg ctc tgc tgg agc ctg 432  
 Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu  
 130 135 140  
 gtg gta gga gcc tat gtc tgt ggg gtg tca gga gcc atc ctg cgt acc 480  
 Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr  
 145 150 155 160  
 act tgc acc ttc acc ctc tcc ttc tgt aag gac aat caa ata aac ttc 528  
 Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe  
 165 170 175  
 ttc ttc tgt gac ctc cca ccc ctg ctg aag ctt gcc tgc agt gac aca 576  
 Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr  
 180 185 190  
 gca aac atc gag att gtc atc atc ttc ttt ggc aat ttt gtg att ttg 624

Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu  
195 200 205

gcc aat gcc tcc gtc atc ctg att tcc tat ctg ctc atc atc aag acc 672  
Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr  
210 215 220

att ttg aaa gtg aag tct tca ggt ggc agg gcc aag act ttc tcc aca 720  
Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr  
225 230 235 240

tgt gcc tct cac atc act gct gtg gcc ctt ttc ttt gga gcc ctt atc 768  
Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile  
245 250 255

ttc atg tat ctg caa agt ggc tca ggc aaa tct ctg gag gaa gac aaa 816  
Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys  
260 265 270

gtc gtg tct gtc ttc tat aca gtg gtc atc ccc atg ctg aac cct ctg 864  
Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
275 280 285

atc tac agc tta aga aac aaa gat gta aaa gac gcc ttc aga aag gtc 912  
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val  
290 295 300

gct agg aga ctc cag gtg tcc ctg agc atg tag 945  
Ala Arg Arg Leu Gln Val Ser Leu Ser Met  
305 310

<210> 202  
<211> 314  
<212> PRT  
<213> Homo Sapiens

<400> 202

Met Ala Lys Asn Asn Leu Thr Arg Val Thr Glu Phe Ile Leu Met Gly  
1 5 10 15

Phe Met Asp His Pro Lys Leu Glu Ile Pro Leu Phe Leu Val Phe Leu  
20 25 30

Ser Phe Tyr Leu Val Thr Leu Leu Gly Asn Val Gly Met Ile Met Leu  
35 40 45

Ile Gln Val Asp Val Lys Leu Tyr Thr Pro Met Tyr Phe Phe Leu Ser  
50 55 60

His Leu Ser Leu Leu Asp Ala Cys Tyr Thr Ser Val Ile Thr Pro Gln  
65 70 75 80

Ile Leu Ala Thr Leu Ala Thr Gly Lys Thr Val Ile Ser Tyr Gly His  
85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Ile Cys Ala Gly Thr Glu Ser  
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Ala Ala Ile Arg Asn  
 115 120 125

Pro Leu Leu Tyr Thr Val Ala Met Asn Pro Arg Leu Cys Trp Ser Leu  
 130 135 140

Val Val Gly Ala Tyr Val Cys Gly Val Ser Gly Ala Ile Leu Arg Thr  
 145 150 155 160

Thr Cys Thr Phe Thr Leu Ser Phe Cys Lys Asp Asn Gln Ile Asn Phe  
 165 170 175

Phe Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Ala Cys Ser Asp Thr  
 180 185 190

Ala Asn Ile Glu Ile Val Ile Ile Phe Phe Gly Asn Phe Val Ile Leu  
 195 200 205

Ala Asn Ala Ser Val Ile Leu Ile Ser Tyr Leu Leu Ile Ile Lys Thr  
 210 215 220

Ile Leu Lys Val Lys Ser Ser Gly Gly Arg Ala Lys Thr Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Ile Thr Ala Val Ala Leu Phe Phe Gly Ala Leu Ile  
 245 250 255

Phe Met Tyr Leu Gln Ser Gly Ser Gly Lys Ser Leu Glu Glu Asp Lys  
 260 265 270

Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Arg Lys Val  
 290 295 300

Ala Arg Arg Leu Gln Val Ser Leu Ser Met  
 305 310

<210> 203

<211> 975

<212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (972)

&lt;223&gt;

&lt;400&gt; 203

atg gct gta gga agg aac aac aca att gtg aca aaa ttc att ctc ctg	48
Met Ala Val Gly Arg Asn Asn Thr Ile Val Thr Lys Phe Ile Leu Leu	
1 5 10 15	
gga ctt tca gac cat cct caa atg aag att ttc ctt ttc atg tta ttt	96
Gly Leu Ser Asp His Pro Gln Met Lys Ile Phe Leu Phe Met Leu Phe	
20 25 30	
ctg ggg ctc tac ctc ctg acg ttg gcc tgg aac tta agc ctc att gcc	144
Leu Gly Leu Tyr Leu Leu Thr Leu Ala Trp Asn Leu Ser Leu Ile Ala	
35 40 45	
ctc att aag atg gac tct cac ctg cac atg ccc atg tac ttc ttc ctc	192
Leu Ile Lys Met Asp Ser His Leu His Met Pro Met Tyr Phe Phe Leu	
50 55 60	
agt aac ctg tcc ttc ctg gac atc tgc tat gtg tcc tcc acc gcc cct	240
Ser Asn Leu Ser Phe Leu Asp Ile Cys Tyr Val Ser Ser Thr Ala Pro	
65 70 75 80	
aag atg ctg tct gac atc atc aca gag cag aaa acc att tcc ttt gtt	288
Lys Met Leu Ser Asp Ile Ile Thr Glu Gln Lys Thr Ile Ser Phe Val	
85 90 95	
ggc tgt gcc act cag tac ttt gtc ttc tgt ggg atg ggg ctg act gaa	336
Gly Cys Ala Thr Gln Tyr Phe Val Phe Cys Gly Met Gly Leu Thr Glu	
100 105 110	
tgc ttt ctc ctg gca gct atg gcc tat gac cgg tat gct gca atc tgc	384
Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys	
115 120 125	
aac ccc ttg ctt tac aca gtc ctc ata tcc cat aca ctt tgt tta aag	432
Asn Pro Leu Leu Tyr Thr Val Leu Ile Ser His Thr Leu Cys Leu Lys	
130 135 140	
atg gtg gtt ggc gcc tat gtg ggt gga ttc ctt agt tct ttc att gaa	480
Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Phe Ile Glu	
145 150 155 160	
aca tac tct gtc tat cag cat gat ttc tgt ggg ccc tat atg atc aac	528
Thr Tyr Ser Val Tyr Gln His Asp Phe Cys Gly Pro Tyr Met Ile Asn	
165 170 175	
cac ttt ttc tgt gac ctc cct cca gtc ctg gct ctg tcc tgc tct gat	576
His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys Ser Asp	
180 185 190	
acc ttc acc agc gag gtg gtg acc ttc ata gtc agt gtt gtc gtt gga	624
Thr Phe Thr Ser Glu Val Val Thr Phe Ile Val Ser Val Val Val Gly	
195 200 205	

ata gtg tct gtg cta gtg gtc ctc atc tct tat ggt tac att gtt gct 672  
 Ile Val Ser Val Leu Val Val Leu Ile Ser Tyr Gly Tyr Ile Val Ala  
 210 215 220  
  
 gct gtt gtg aag atc agc tca gct aca ggt agg aca aag gcc ttc agc 720  
 Ala Val Val Lys Ile Ser Ser Ala Thr Gly Arg Thr Lys Ala Phe Ser  
 225 230 235 240  
  
 act tgt gcc tct cac ctg act gct gtg acc ctc ttc tat ggt tct gga 768  
 Thr Cys Ala Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ser Gly  
 245 250 255  
  
 ttc ttc atg tac atg cga ccc agt tcc agc tac tcc cta aac agg gac 816  
 Phe Phe Met Tyr Met Arg Pro Ser Ser Ser Tyr Ser Leu Asn Arg Asp  
 260 265 270  
  
 aag gtg gtg tcc ata ttc tat gcc ttg gtg atc ccc gtg gtg aat ccc 864  
 Lys Val Val Ser Ile Phe Tyr Ala Leu Val Ile Pro Val Val Asn Pro  
 275 280 285  
  
 atc atc tac agt ttt agg aat aag gag att aaa aat gcc atg agg aaa 912  
 Ile Ile Tyr Ser Phe Arg Asn Lys Glu Ile Lys Asn Ala Met Arg Lys  
 290 295 300  
  
 gcc atg gaa agg gac ccc ggg att tct cac ggt gga cca ttc att ttt 960  
 Ala Met Glu Arg Asp Pro Gly Ile Ser His Gly Gly Pro Phe Ile Phe  
 305 310 315 320  
  
 atg acc ttg ggc taa 975  
 Met Thr Leu Gly

<210> 204  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 204

Met Ala Val Gly Arg Asn Asn Thr Ile Val Thr Lys Phe Ile Leu Leu  
 1 5 10 15  
  
 Gly Leu Ser Asp His Pro Gln Met Lys Ile Phe Leu Phe Met Leu Phe  
 20 25 30  
  
 Leu Gly Leu Tyr Leu Leu Thr Leu Ala Trp Asn Leu Ser Leu Ile Ala  
 35 40 45  
  
 Leu Ile Lys Met Asp Ser His Leu His Met Pro Met Tyr Phe Phe Leu  
 50 55 60  
  
 Ser Asn Leu Ser Phe Leu Asp Ile Cys Tyr Val Ser Ser Thr Ala Pro  
 65 70 75 80  
  
 Lys Met Leu Ser Asp Ile Ile Thr Glu Gln Lys Thr Ile Ser Phe Val

85					90					95					
Gly	Cys	Ala	Thr	Gln	Tyr	Phe	Val	Phe	Cys	Gly	Met	Gly	Leu	Thr	Glu
			100					105					110		
Cys	Phe	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Ile	Cys
		115					120					125			
Asn	Pro	Leu	Leu	Tyr	Thr	Val	Leu	Ile	Ser	His	Thr	Leu	Cys	Leu	Lys
	130					135					140				
Met	Val	Val	Gly	Ala	Tyr	Val	Gly	Gly	Phe	Leu	Ser	Ser	Phe	Ile	Glu
145					150					155					160
Thr	Tyr	Ser	Val	Tyr	Gln	His	Asp	Phe	Cys	Gly	Pro	Tyr	Met	Ile	Asn
				165					170					175	
His	Phe	Phe	Cys	Asp	Leu	Pro	Pro	Val	Leu	Ala	Leu	Ser	Cys	Ser	Asp
			180					185					190		
Thr	Phe	Thr	Ser	Glu	Val	Val	Thr	Phe	Ile	Val	Ser	Val	Val	Val	Gly
		195					200					205			
Ile	Val	Ser	Val	Leu	Val	Val	Leu	Ile	Ser	Tyr	Gly	Tyr	Ile	Val	Ala
	210					215					220				
Ala	Val	Val	Lys	Ile	Ser	Ser	Ala	Thr	Gly	Arg	Thr	Lys	Ala	Phe	Ser
225					230					235					240
Thr	Cys	Ala	Ser	His	Leu	Thr	Ala	Val	Thr	Leu	Phe	Tyr	Gly	Ser	Gly
				245					250					255	
Phe	Phe	Met	Tyr	Met	Arg	Pro	Ser	Ser	Ser	Tyr	Ser	Leu	Asn	Arg	Asp
			260					265					270		
Lys	Val	Val	Ser	Ile	Phe	Tyr	Ala	Leu	Val	Ile	Pro	Val	Val	Asn	Pro
	275						280					285			
Ile	Ile	Tyr	Ser	Phe	Arg	Asn	Lys	Glu	Ile	Lys	Asn	Ala	Met	Arg	Lys
	290					295					300				
Ala	Met	Glu	Arg	Asp	Pro	Gly	Ile	Ser	His	Gly	Gly	Pro	Phe	Ile	Phe
305					310					315					320
Met	Thr	Leu	Gly												

<210> 205  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)  
 <223>

<400> 205  
 atg tcc ata acc aaa gcc tgg aac agc tca tca gtg acc atg ttc atc 48  
 Met Ser Ile Thr Lys Ala Trp Asn Ser Ser Ser Val Thr Met Phe Ile  
 1 5 10 15  
 ctc ctg gga ttc aca gac cat cca gaa ctc cag gcc ctc ctc ttt gtg 96  
 Leu Leu Gly Phe Thr Asp His Pro Glu Leu Gln Ala Leu Leu Phe Val  
 20 25 30  
 acc ttc ctg ggc atc tat ctt acc acc ctg gcc tgg aac ctg gcc ctc 144  
 Thr Phe Leu Gly Ile Tyr Leu Thr Thr Leu Ala Trp Asn Leu Ala Leu  
 35 40 45  
 att ttt ctg atc aga ggt gac acc cat ctg cac aca ccc atg tac ttc 192  
 Ile Phe Leu Ile Arg Gly Asp Thr His Leu His Thr Pro Met Tyr Phe  
 50 55 60  
 ttc cta agc aac tta tct ttc att gac atc tgc tac tct tct gct gtg 240  
 Phe Leu Ser Asn Leu Ser Phe Ile Asp Ile Cys Tyr Ser Ser Ala Val  
 65 70 75 80  
 gct ccc aat atg ctc act gac ttc ttc tgg gag cag aag acc ata tca 288  
 Ala Pro Asn Met Leu Thr Asp Phe Phe Trp Glu Gln Lys Thr Ile Ser  
 85 90 95  
 ttt gtg ggc tgt gct gct cag ttt ttt ttc ttt gtc ggc atg ggt ctg 336  
 Phe Val Gly Cys Ala Ala Gln Phe Phe Phe Phe Val Gly Met Gly Leu  
 100 105 110  
 tct gag tgc ctc ctc ctg act gct atg gca tac gac cga tat gca gcc 384  
 Ser Glu Cys Leu Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala  
 115 120 125  
 atc tcc agc ccc ctt ctc tac ccc act atc atg acc cag ggc ctc tgt 432  
 Ile Ser Ser Pro Leu Leu Tyr Pro Thr Ile Met Thr Gln Gly Leu Cys  
 130 135 140  
 aca cgc atg gtg gtt ggg gca tat gtt ggt ggc ttc ctg agc tcc ctg 480  
 Thr Arg Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Leu  
 145 150 155 160  
 atc cag gcc agc tcc ata ttt agg ctt cac ttt tgc gga ccc aac atc 528  
 Ile Gln Ala Ser Ser Ile Phe Arg Leu His Phe Cys Gly Pro Asn Ile  
 165 170 175  
 atc aac cac ttc ttc tgc gac ctc cca cca gtc ctg gct ctg tct tgc 576  
 Ile Asn His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys  
 180 185 190

tct gac acc ttc ctc agt caa gtg gtg aat ttc ctc gtg gtg gtc act 624  
 Ser Asp Thr Phe Leu Ser Gln Val Val Asn Phe Leu Val Val Val Thr  
 195 200 205  
  
 gtc gga gga aca tcg ttc ctc caa ctc ctt atc tcc tat ggt tac ata 672  
 Val Gly Gly Thr Ser Phe Leu Gln Leu Leu Ile Ser Tyr Gly Tyr Ile  
 210 215 220  
  
 gtg tct gcg gtc ctg aag atc cct tca gca gag ggc cga tgg aaa gcc 720  
 Val Ser Ala Val Leu Lys Ile Pro Ser Ala Glu Gly Arg Trp Lys Ala  
 225 230 235 240  
  
 tgc aac acg tgt gcc tcg cat ctg atg gtg gtg act ctg ctg ttt ggg 768  
 Cys Asn Thr Cys Ala Ser His Leu Met Val Val Thr Leu Leu Phe Gly  
 245 250 255  
  
 aca gcc ctt ttc gtg tac ttg cga ccc agc tcc agc tac ttg cta ggc 816  
 Thr Ala Leu Phe Val Tyr Leu Arg Pro Ser Ser Ser Tyr Leu Leu Gly  
 260 265 270  
  
 agg gac aag gtg gtg tct gtt ttc tat tca ttg gtg atc ccc atg ctg 864  
 Arg Asp Lys Val Val Ser Val Phe Tyr Ser Leu Val Ile Pro Met Leu  
 275 280 285  
  
 aac cct ctc att tac agt ttg agg aac aaa gag atc aag gat gcc ctg 912  
 Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu  
 290 295 300  
  
 tgg aag gtg ttg gaa agg aag aaa gtg ttt tct tag 948  
 Trp Lys Val Leu Glu Arg Lys Lys Val Phe Ser  
 305 310 315

<210> 206  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 206

Met Ser Ile Thr Lys Ala Trp Asn Ser Ser Ser Val Thr Met Phe Ile  
 1 5 10 15  
  
 Leu Leu Gly Phe Thr Asp His Pro Glu Leu Gln Ala Leu Leu Phe Val  
 20 25 30  
  
 Thr Phe Leu Gly Ile Tyr Leu Thr Thr Leu Ala Trp Asn Leu Ala Leu  
 35 40 45  
  
 Ile Phe Leu Ile Arg Gly Asp Thr His Leu His Thr Pro Met Tyr Phe  
 50 55 60  
  
 Phe Leu Ser Asn Leu Ser Phe Ile Asp Ile Cys Tyr Ser Ser Ala Val  
 65 70 75 80



Ala Pro Asn Met Leu Thr Asp Phe Phe Trp Glu Gln Lys Thr Ile Ser  
85 90 95

Phe Val Gly Cys Ala Ala Gln Phe Phe Phe Val Gly Met Gly Leu  
100 105 110

Ser Glu Cys Leu Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala  
115 120 125

Ile Ser Ser Pro Leu Leu Tyr Pro Thr Ile Met Thr Gln Gly Leu Cys  
130 135 140

Thr Arg Met Val Val Gly Ala Tyr Val Gly Gly Phe Leu Ser Ser Leu  
145 150 155 160

Ile Gln Ala Ser Ser Ile Phe Arg Leu His Phe Cys Gly Pro Asn Ile  
165 170 175

Ile Asn His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala Leu Ser Cys  
180 185 190

Ser Asp Thr Phe Leu Ser Gln Val Val Asn Phe Leu Val Val Val Thr  
195 200 205

Val Gly Gly Thr Ser Phe Leu Gln Leu Leu Ile Ser Tyr Gly Tyr Ile  
210 215 220

Val Ser Ala Val Leu Lys Ile Pro Ser Ala Glu Gly Arg Trp Lys Ala  
225 230 235 240

Cys Asn Thr Cys Ala Ser His Leu Met Val Val Thr Leu Leu Phe Gly  
245 250 255

Thr Ala Leu Phe Val Tyr Leu Arg Pro Ser Ser Ser Tyr Leu Leu Gly  
260 265 270

Arg Asp Lys Val Val Ser Val Phe Tyr Ser Leu Val Ile Pro Met Leu  
275 280 285

Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu  
290 295 300

Trp Lys Val Leu Glu Arg Lys Lys Val Phe Ser  
305 310 315

&lt;210&gt; 207

<211> 936  
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 <213> Homo Sapiens

<220>  
 <221> CDS  
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<400> 207  
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 Met Glu Met Glu Asn Cys Thr Arg Val Lys Glu Phe Ile Phe Leu Gly  
 1 5 10 15  
 ctg acc cag aat cgg gaa gtg agc tta gtc tta ttt ctt ttc cta ctc 96  
 Leu Thr Gln Asn Arg Glu Val Ser Leu Val Leu Phe Leu Phe Leu Leu  
 20 25 30  
 ttg gtg tat gtg aca act ttg ctg gga aac ctc ctc atc atg gtc act 144  
 Leu Val Tyr Val Thr Thr Leu Leu Gly Asn Leu Leu Ile Met Val Thr  
 35 40 45  
 gtt acc tgt gaa tct cgc ctt cac acg ccc atg tat ttt ttg ctc cat 192  
 Val Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu His  
 50 55 60  
 aat tta tct att gcc gat atc tgc ttc tct tcc atc aca gtg ccc aag 240  
 Asn Leu Ser Ile Ala Asp Ile Cys Phe Ser Ser Ile Thr Val Pro Lys  
 65 70 75 80  
 gtt ctg gtg gac ctt ctg tct gaa aga aag acc atc tcc ttc aat cat 288  
 Val Leu Val Asp Leu Leu Ser Glu Arg Lys Thr Ile Ser Phe Asn His  
 85 90 95  
 tgc ttc act cag atg ttt cta ttc cac ctt att gga ggg gtg gat gta 336  
 Cys Phe Thr Gln Met Phe Leu Phe His Leu Ile Gly Gly Val Asp Val  
 100 105 110  
 ttt tct ctt tcg gtg atg gca ttg gat cga tat gtg gcc atc tcc aag 384  
 Phe Ser Leu Ser Val Met Ala Leu Asp Arg Tyr Val Ala Ile Ser Lys  
 115 120 125  
 ccc ctg cac tat gcg act atc atg agt aga gac cat tgc att ggg ctc 432  
 Pro Leu His Tyr Ala Thr Ile Met Ser Arg Asp His Cys Ile Gly Leu  
 130 135 140  
 aca gtg gct gcc tgg ttg ggg ggc ttt gtc cac tcc atc gtg cag att 480  
 Thr Val Ala Ala Trp Leu Gly Gly Phe Val His Ser Ile Val Gln Ile  
 145 150 155 160  
 tcc ctg ttg ctc cca ctc cct ttc tgc gga ccc aat gtt ctt gac act 528  
 Ser Leu Leu Leu Pro Leu Pro Phe Cys Gly Pro Asn Val Leu Asp Thr  
 165 170 175  
 ttc tac tgt gat gtc cac cgg gtc ctc aaa ctg gcc cat aca gac att 576  
 Phe Tyr Cys Asp Val His Arg Val Leu Lys Leu Ala His Thr Asp Ile  
 180 185 190  
 ttc ata ctt gaa cta cta atg att tcc aac aat gga ctg ctc acc aca 624  
 Phe Ile Leu Glu Leu Leu Met Ile Ser Asn Asn Gly Leu Leu Thr Thr

195	200	205	
ctg tgg ttt ttc ctg ctc ctg gtg tcc tac ata gtc ata tta tca tta			672
Leu Trp Phe Phe Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Ser Leu			
210	215	220	
ccc aag tct cag gca gga gag ggc agg agg aaa gcc atc tcc acc tgc			720
Pro Lys Ser Gln Ala Gly Glu Gly Arg Arg Lys Ala Ile Ser Thr Cys			
225	230	235	240
acc tcc cac atc act gtg gtg acc ctg cat ttc gtg ccc tgc atc tat			768
Thr Ser His Ile Thr Val Val Thr Leu His Phe Val Pro Cys Ile Tyr			
	245	250	255
gtc tat gcc cgg ccc ttc act gcc ctc ccc atg gat aag gcc atc tct			816
Val Tyr Ala Arg Pro Phe Thr Ala Leu Pro Met Asp Lys Ala Ile Ser			
	260	265	270
gtc acc ttc act gtc atc tcc cct ctg ctc aac ccc ttg atc tac act			864
Val Thr Phe Thr Val Ile Ser Pro Leu Leu Asn Pro Leu Ile Tyr Thr			
	275	280	285
ctg agg aac cat gag atg aag tca gcc atg agg aga ctg aag aga aga			912
Leu Arg Asn His Glu Met Lys Ser Ala Met Arg Arg Leu Lys Arg Arg			
	290	295	300
ctt gtg cct tct gat aga aaa tag			936
Leu Val Pro Ser Asp Arg Lys			
305	310		
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Met Glu Met Glu Asn Cys Thr Arg Val Lys Glu Phe Ile Phe Leu Gly			
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Leu Thr Gln Asn Arg Glu Val Ser Leu Val Leu Phe Leu Phe Leu Leu			
	20	25	30
Leu Val Tyr Val Thr Thr Leu Leu Gly Asn Leu Leu Ile Met Val Thr			
	35	40	45
Val Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu His			
	50	55	60
Asn Leu Ser Ile Ala Asp Ile Cys Phe Ser Ser Ile Thr Val Pro Lys			
	65	70	75
Val Leu Val Asp Leu Leu Ser Glu Arg Lys Thr Ile Ser Phe Asn His			
	85	90	95

Cys Phe Thr Gln Met Phe Leu Phe His Leu Ile Gly Gly Val Asp Val  
 100 105 110

Phe Ser Leu Ser Val Met Ala Leu Asp Arg Tyr Val Ala Ile Ser Lys  
 115 120 125

Pro Leu His Tyr Ala Thr Ile Met Ser Arg Asp His Cys Ile Gly Leu  
 130 135 140

Thr Val Ala Ala Trp Leu Gly Gly Phe Val His Ser Ile Val Gln Ile  
 145 150 155 160

Ser Leu Leu Leu Pro Leu Pro Phe Cys Gly Pro Asn Val Leu Asp Thr  
 165 170 175

Phe Tyr Cys Asp Val His Arg Val Leu Lys Leu Ala His Thr Asp Ile  
 180 185 190

Phe Ile Leu Glu Leu Leu Met Ile Ser Asn Asn Gly Leu Leu Thr Thr  
 195 200 205

Leu Trp Phe Phe Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Ser Leu  
 210 215 220

Pro Lys Ser Gln Ala Gly Glu Gly Arg Arg Lys Ala Ile Ser Thr Cys  
 225 230 235 240

Thr Ser His Ile Thr Val Val Thr Leu His Phe Val Pro Cys Ile Tyr  
 245 250 255

Val Tyr Ala Arg Pro Phe Thr Ala Leu Pro Met Asp Lys Ala Ile Ser  
 260 265 270

Val Thr Phe Thr Val Ile Ser Pro Leu Leu Asn Pro Leu Ile Tyr Thr  
 275 280 285

Leu Arg Asn His Glu Met Lys Ser Ala Met Arg Arg Leu Lys Arg Arg  
 290 295 300

Leu Val Pro Ser Asp Arg Lys  
 305 310

<210> 209

<211> 945

<212> DNA

<213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (942)

&lt;223&gt;

&lt;400&gt; 209

atg	gac	cag	atc	aac	cac	act	aat	gtg	aag	gag	ttt	ttc	ttc	ctg	gaa	48
Met	Asp	Gln	Ile	Asn	His	Thr	Asn	Val	Lys	Glu	Phe	Phe	Phe	Leu	Glu	
1				5					10					15		

ctt	aca	cgt	tcc	cga	gag	ctg	gag	ttt	ttc	ttg	ttt	gtg	gtc	ttc	ttt	96
Leu	Thr	Arg	Ser	Arg	Glu	Leu	Glu	Phe	Leu	Phe	Val	Val	Phe	Phe		
			20					25				30				

gct	gtg	tat	gta	gca	aca	gtc	ctg	gga	aat	gca	ctc	att	gtg	gtc	act	144
Ala	Val	Tyr	Val	Ala	Thr	Val	Leu	Gly	Asn	Ala	Leu	Ile	Val	Val	Thr	
		35					40					45				

att	acc	tgt	gag	tcc	cgc	cta	cac	act	cct	atg	tac	ttt	ctc	ctg	cgg	192
Ile	Thr	Cys	Glu	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Arg	
		50				55					60					

aac	aaa	tca	gtc	ctg	gac	atc	ggt	ttt	tca	tct	atc	acc	gtc	ccc	aag	240
Asn	Lys	Ser	Val	Leu	Asp	Ile	Val	Phe	Ser	Ser	Ile	Thr	Val	Pro	Lys	
65					70				75					80		

ttc	ctg	gtg	gat	ctt	tta	tca	gac	agg	aaa	acc	atc	tcc	tac	aat	gac	288
Phe	Leu	Val	Asp	Leu	Leu	Ser	Asp	Arg	Lys	Thr	Ile	Ser	Tyr	Asn	Asp	
				85					90					95		

tgc	atg	gca	cag	atc	ttt	ttc	ttc	cac	ttt	gct	ggt	ggg	gca	gat	att	336
Cys	Met	Ala	Gln	Ile	Phe	Phe	Phe	His	Phe	Ala	Gly	Gly	Ala	Asp	Ile	
			100					105					110			

ttt	ttc	ctc	tct	gtg	atg	gcc	tat	gac	aga	tac	ctt	gca	atc	gcc	aag	384
Phe	Phe	Leu	Ser	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Leu	Ala	Ile	Ala	Lys	
		115					120					125				

ccc	ctg	cac	tat	gtg	acc	atg	atg	agg	aaa	gag	gtg	tgg	gtg	gcc	ttg	432
Pro	Leu	His	Tyr	Val	Thr	Met	Met	Arg	Lys	Glu	Val	Trp	Val	Ala	Leu	
		130				135						140				

gtg	gtg	gct	tct	tgg	gtg	agt	ggt	ggt	ttg	cat	tca	atc	atc	cag	gta	480
Val	Val	Ala	Ser	Trp	Val	Ser	Gly	Gly	Leu	His	Ser	Ile	Ile	Gln	Val	
145					150				155					160		

att	ctg	atg	ctt	cca	ttc	ccc	ttc	tgt	ggc	ccc	aac	aca	ctg	gat	gcc	528
Ile	Leu	Met	Leu	Pro	Phe	Pro	Phe	Cys	Gly	Pro	Asn	Thr	Leu	Asp	Ala	
				165					170					175		

ttc	tac	tgt	tat	gtg	ctc	cag	gtg	gta	aaa	ctg	gcc	tgc	act	gac	acc	576
Phe	Tyr	Cys	Tyr	Val	Leu	Gln	Val	Val	Lys	Leu	Ala	Cys	Thr	Asp	Thr	
			180					185					190			

ttt	gct	ttg	gag	ctt	ttc	atg	atc	tct	aac	aac	gga	ctg	gtg	acc	ctg	624
Phe	Ala	Leu	Glu	Leu	Phe	Met	Ile	Ser	Asn	Asn	Gly	Leu	Val	Thr	Leu	
		195					200					205				

ctc	tgg	ttc	ctc	ctg	ctc	ctg	ggc	tcc	tac	act	gtc	att	ctg	gtg	atg	672
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Leu Trp Phe Leu Leu Leu Leu Gly Ser Tyr Thr Val Ile Leu Val Met  
 210 215 220  
 ctg aga tcc cac tct ggg gag ggg cgg aac aag gcc ctc tcc acg tgc 720  
 Leu Arg Ser His Ser Gly Glu Gly Arg Asn Lys Ala Leu Ser Thr Cys  
 225 230 235 240  
 acg tcc cac atg ctg gtg gtg act ctt cac ttc gtg cct tgt gtt tac 768  
 Thr Ser His Met Leu Val Val Thr Leu His Phe Val Pro Cys Val Tyr  
 245 250 255  
 atc tac tgc cgg ccc ttc atg acg ctg ccc atg gac aca acc ata tcc 816  
 Ile Tyr Cys Arg Pro Phe Met Thr Leu Pro Met Asp Thr Thr Ile Ser  
 260 265 270  
 att aat aac acg gtc att acc ccc atg ctg aac ccc atc atc tat tcc 864  
 Ile Asn Asn Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
 275 280 285  
 ctg aga aat caa gag atg aag tca gcc atg cag agg ctg cag agg aga 912  
 Leu Arg Asn Gln Glu Met Lys Ser Ala Met Gln Arg Leu Gln Arg Arg  
 290 295 300  
 ctt ggg cct tcc gag agc aga aaa tgg ggg tga 945  
 Leu Gly Pro Ser Glu Ser Arg Lys Trp Gly  
 305 310

<210> 210  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 210

Met Asp Gln Ile Asn His Thr Asn Val Lys Glu Phe Phe Phe Leu Glu  
 1 5 10 15  
 Leu Thr Arg Ser Arg Glu Leu Glu Phe Phe Leu Phe Val Val Phe Phe  
 20 25 30  
 Ala Val Tyr Val Ala Thr Val Leu Gly Asn Ala Leu Ile Val Val Thr  
 35 40 45  
 Ile Thr Cys Glu Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Arg  
 50 55 60  
 Asn Lys Ser Val Leu Asp Ile Val Phe Ser Ser Ile Thr Val Pro Lys  
 65 70 75 80  
 Phe Leu Val Asp Leu Leu Ser Asp Arg Lys Thr Ile Ser Tyr Asn Asp  
 85 90 95  
 Cys Met Ala Gln Ile Phe Phe Phe His Phe Ala Gly Gly Ala Asp Ile  
 100 105 110

Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Ala Lys  
 115 120 125  
 Pro Leu His Tyr Val Thr Met Met Arg Lys Glu Val Trp Val Ala Leu  
 130 135 140  
 Val Val Ala Ser Trp Val Ser Gly Gly Leu His Ser Ile Ile Gln Val  
 145 150 155 160  
 Ile Leu Met Leu Pro Phe Pro Phe Cys Gly Pro Asn Thr Leu Asp Ala  
 165 170 175  
 Phe Tyr Cys Tyr Val Leu Gln Val Val Lys Leu Ala Cys Thr Asp Thr  
 180 185 190  
 Phe Ala Leu Glu Leu Phe Met Ile Ser Asn Asn Gly Leu Val Thr Leu  
 195 200 205  
 Leu Trp Phe Leu Leu Leu Leu Gly Ser Tyr Thr Val Ile Leu Val Met  
 210 215 220  
 Leu Arg Ser His Ser Gly Glu Gly Arg Asn Lys Ala Leu Ser Thr Cys  
 225 230 235 240  
 Thr Ser His Met Leu Val Val Thr Leu His Phe Val Pro Cys Val Tyr  
 245 250 255  
 Ile Tyr Cys Arg Pro Phe Met Thr Leu Pro Met Asp Thr Thr Ile Ser  
 260 265 270  
 Ile Asn Asn Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
 275 280 285  
 Leu Arg Asn Gln Glu Met Lys Ser Ala Met Gln Arg Leu Gln Arg Arg  
 290 295 300  
 Leu Gly Pro Ser Glu Ser Arg Lys Trp Gly  
 305 310

<210> 211  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS

&lt;222&gt; (1)..(945)

&lt;223&gt;

&lt;400&gt; 211

atg gag acg tgg gtg aac cag tcc tac aca gat ggc ttc ttc ctc tta	48
Met Glu Thr Trp Val Asn Gln Ser Tyr Thr Asp Gly Phe Phe Leu Leu	
1 5 10 15	
ggc atc ttc tcc cac agt act gct gac ctt gtc ctc ttc tcc gtg gtt	96
Gly Ile Phe Ser His Ser Thr Ala Asp Leu Val Leu Phe Ser Val Val	
20 25 30	
atg gcg gtc ttc aca gtg gcc ctc tgt ggg aat gtc ctc ctc atc ttc	144
Met Ala Val Phe Thr Val Ala Leu Cys Gly Asn Val Leu Leu Ile Phe	
35 40 45	
ctc atc tac atg gac cct cac ctt cac acc ccc atg tac ttc ttc ctc	192
Leu Ile Tyr Met Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu	
50 55 60	
agc cag ctc tcc ctc atg gac ctc atg ttg gtc tgt acc aat gtg cca	240
Ser Gln Leu Ser Leu Met Asp Leu Met Leu Val Cys Thr Asn Val Pro	
65 70 75 80	
aag atg gca gcc aac ttc ctg tct ggc agg aag tcc atc tcc ttt gtg	288
Lys Met Ala Ala Asn Phe Leu Ser Gly Arg Lys Ser Ile Ser Phe Val	
85 90 95	
ggc tgt ggc ata caa att ggc ctc ttt gtc tgt ctt gtg gga tct gag	336
Gly Cys Gly Ile Gln Ile Gly Leu Phe Val Cys Leu Val Gly Ser Glu	
100 105 110	
ggg ctc ttg ctg gga ctc atg gct tat gac cgc tat gtg gcc att agc	384
Gly Leu Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Ser	
115 120 125	
cac cca ctt cac tat ccc atc ctc atg aat cag agg gtc tgt ctc cag	432
His Pro Leu His Tyr Pro Ile Leu Met Asn Gln Arg Val Cys Leu Gln	
130 135 140	
att act ggg agc tcc tgg gcc ttt ggg ata atc gat ggc ttg atc cag	480
Ile Thr Gly Ser Ser Trp Ala Phe Gly Ile Ile Asp Gly Leu Ile Gln	
145 150 155 160	
atg gtg gta gta atg aat ttc ccc tac tgt ggc ttg agg aag gtg aac	528
Met Val Val Val Met Asn Phe Pro Tyr Cys Gly Leu Arg Lys Val Asn	
165 170 175	
cat ttc ttc tgt gag atg cta tcc ttg ttg aag ctg gcc tgt gta gac	576
His Phe Phe Cys Glu Met Leu Ser Leu Leu Lys Leu Ala Cys Val Asp	
180 185 190	
aca tcc ctg ttt gag aag gtg ata ttt gct tgc tgt gtc ttc atg ctt	624
Thr Ser Leu Phe Glu Lys Val Ile Phe Ala Cys Cys Val Phe Met Leu	
195 200 205	
ctc ttc cca ttc tcc atc atc gtg gcc tcc tat gct cac att cta ggg	672
Leu Phe Pro Phe Ser Ile Ile Val Ala Ser Tyr Ala His Ile Leu Gly	
210 215 220	



act gtg ctg caa atg cac tct gct cag gcc tgg aaa aag gcc ctg gcc 720  
 Thr Val Leu Gln Met His Ser Ala Gln Ala Trp Lys Lys Ala Leu Ala  
 225 230 235 240

acc tgc tcc tcc cac ctg aca gct gtc acc ctc ttc tat ggg gca gcc 768  
 Thr Cys Ser Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ala Ala  
 245 250 255

atg ttc atc tac ctg agg cct agg cac tac cgg gcc ccc agc cat gac 816  
 Met Phe Ile Tyr Leu Arg Pro Arg His Tyr Arg Ala Pro Ser His Asp  
 260 265 270

aag gtg gcc tct atc ttc tac acg gtc ctt act ccc atg ctc aac ccc 864  
 Lys Val Ala Ser Ile Phe Tyr Thr Val Leu Thr Pro Met Leu Asn Pro  
 275 280 285

ctc att tac agc ttg agg aac agg gag gtg atg ggg gca ctg agg aag 912  
 Leu Ile Tyr Ser Leu Arg Asn Arg Glu Val Met Gly Ala Leu Arg Lys  
 290 295 300

ggg ctg gac cgc tgc agg atc ggc agc cag cac tga 948  
 Gly Leu Asp Arg Cys Arg Ile Gly Ser Gln His  
 305 310 315

<210> 212

<211> 315

<212> PRT

<213> Homo Sapiens

<400> 212

Met Glu Thr Trp Val Asn Gln Ser Tyr Thr Asp Gly Phe Phe Leu Leu  
 1 5 10 15

Gly Ile Phe Ser His Ser Thr Ala Asp Leu Val Leu Phe Ser Val Val  
 20 25 30

Met Ala Val Phe Thr Val Ala Leu Cys Gly Asn Val Leu Leu Ile Phe  
 35 40 45

Leu Ile Tyr Met Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

Ser Gln Leu Ser Leu Met Asp Leu Met Leu Val Cys Thr Asn Val Pro  
 65 70 75 80

Lys Met Ala Ala Asn Phe Leu Ser Gly Arg Lys Ser Ile Ser Phe Val  
 85 90 95

Gly Cys Gly Ile Gln Ile Gly Leu Phe Val Cys Leu Val Gly Ser Glu  
 100 105 110

Gly Leu Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Ser

115					120					125						
His	Pro	Leu	His	Tyr	Pro	Ile	Leu	Met	Asn	Gln	Arg	Val	Cys	Leu	Gln	
130					135					140						
Ile	Thr	Gly	Ser	Ser	Trp	Ala	Phe	Gly	Ile	Ile	Asp	Gly	Leu	Ile	Gln	
145					150					155					160	
Met	Val	Val	Val	Met	Asn	Phe	Pro	Tyr	Cys	Gly	Leu	Arg	Lys	Val	Asn	
165					170					175						
His	Phe	Phe	Cys	Glu	Met	Leu	Ser	Leu	Leu	Lys	Leu	Ala	Cys	Val	Asp	
180					185					190						
Thr	Ser	Leu	Phe	Glu	Lys	Val	Ile	Phe	Ala	Cys	Cys	Val	Phe	Met	Leu	
195					200					205						
Leu	Phe	Pro	Phe	Ser	Ile	Ile	Val	Ala	Ser	Tyr	Ala	His	Ile	Leu	Gly	
210					215					220						
Thr	Val	Leu	Gln	Met	His	Ser	Ala	Gln	Ala	Trp	Lys	Lys	Ala	Leu	Ala	
225					230					235					240	
Thr	Cys	Ser	Ser	His	Leu	Thr	Ala	Val	Thr	Leu	Phe	Tyr	Gly	Ala	Ala	
245					250					255						
Met	Phe	Ile	Tyr	Leu	Arg	Pro	Arg	His	Tyr	Arg	Ala	Pro	Ser	His	Asp	
260					265					270						
Lys	Val	Ala	Ser	Ile	Phe	Tyr	Thr	Val	Leu	Thr	Pro	Met	Leu	Asn	Pro	
275					280					285						
Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Arg	Glu	Val	Met	Gly	Ala	Leu	Arg	Lys	
290					295					300						
Gly	Leu	Asp	Arg	Cys	Arg	Ile	Gly	Ser	Gln	His						
305					310					315						

<210> 213  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 213  
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 Met Lys Ile Phe Asn Ser Pro Ser Asn Ser Ser Thr Phe Thr Gly Phe  
 1 5 10 15

atc ctc ctg ggc ttc cct tgc ccc agg gag ggg cag atc ctc ctc ttt 96  
 Ile Leu Leu Gly Phe Pro Cys Pro Arg Glu Gly Gln Ile Leu Leu Phe  
 20 25 30

gtg ctc ttc act gtt gtt tac ctc ctg acc ctc atg ggc aat ggt tcc 144  
 Val Leu Phe Thr Val Val Tyr Leu Leu Thr Leu Met Gly Asn Gly Ser  
 35 40 45

atc atc tgt gct gtg cac tgg gat cag aga ctc cac gcc ccc atg tac 192  
 Ile Ile Cys Ala Val His Trp Asp Gln Arg Leu His Ala Pro Met Tyr  
 50 55 60

atc ctg ctc gcc aac ttc tcc ttc ttg gag ata tgt tat gtc acc tcc 240  
 Ile Leu Leu Ala Asn Phe Ser Phe Leu Glu Ile Cys Tyr Val Thr Ser  
 65 70 75 80

aca gtc ccc agc atg ctg gcc aac ttc ctc tct gac acc aag atc atc 288  
 Thr Val Pro Ser Met Leu Ala Asn Phe Leu Ser Asp Thr Lys Ile Ile  
 85 90 95

tcg ttc tct ggc tgc ttc ctc cag ttc tac ttt ttc ttc tcc ttg ggc 336  
 Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly  
 100 105 110

tct aca gaa tgc ttt ttc ctg gca gtt atg gca ttt gat cga tac ctt 384  
 Ser Thr Glu Cys Phe Phe Leu Ala Val Met Ala Phe Asp Arg Tyr Leu  
 115 120 125

gcc atc tgt cgg cct cta cgc tat cca acc att atg acc aga cgt ctc 432  
 Ala Ile Cys Arg Pro Leu Arg Tyr Pro Thr Ile Met Thr Arg Arg Leu  
 130 135 140

tgt acc aat ctt gtg gtc aat tgc tgg gta ctt ggt ttc atc tgg ttc 480  
 Cys Thr Asn Leu Val Val Asn Cys Trp Val Leu Gly Phe Ile Trp Phe  
 145 150 155 160

ttg att cct atc gtc aac atc tcc caa atg tcc ttc tgt gga tct agg 528  
 Leu Ile Pro Ile Val Asn Ile Ser Gln Met Ser Phe Cys Gly Ser Arg  
 165 170 175

att att gac cac ttc cta tgt gac cca gct cct ctt cta act ctc act 576  
 Ile Ile Asp His Phe Leu Cys Asp Pro Ala Pro Leu Leu Thr Leu Thr  
 180 185 190

tgc aaa aaa ggc cct gtg ata gag ctt gtc ttt tct gtc tta agt cct 624  
 Cys Lys Lys Gly Pro Val Ile Glu Leu Val Phe Ser Val Leu Ser Pro  
 195 200 205

ctg cct gtc ttt atg ctc ttt ctc ttc att gtg ggg tcc tat gct ctg 672  
 Leu Pro Val Phe Met Leu Phe Leu Phe Ile Val Gly Ser Tyr Ala Leu  
 210 215 220

gtc gtg aga gct gtg ttg agg gtc cct tca gca gct ggg aga aga aag 720  
 Val Val Arg Ala Val Leu Arg Val Pro Ser Ala Ala Gly Arg Arg Lys  
 225 230 235 240

gct ttc tcc acc tgt ggg tct cac ctg gct gtg gtt tca ctg ttc tac 768  
 Ala Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr  
 245 250 255

ggc tca gta ctg gtc atg tat ggg agc cca cca tct aag aat gaa gct 816  
 Gly Ser Val Leu Val Met Tyr Gly Ser Pro Pro Ser Lys Asn Glu Ala  
 260 265 270

gga aag cag aag act gtg act ctg ttt tat tct gtt gtt acc cca ctg 864  
 Gly Lys Gln Lys Thr Val Thr Leu Phe Tyr Ser Val Val Thr Pro Leu  
 275 280 285

ctt aac cct gtg ata tat agt ctt agg aac aaa gat atg aga aaa gct 912  
 Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Lys Asp Met Arg Lys Ala  
 290 295 300

ctg aag aaa ttt tgg gga aca taa 936  
 Leu Lys Lys Phe Trp Gly Thr  
 305 310

<210> 214  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 214

Met Lys Ile Phe Asn Ser Pro Ser Asn Ser Ser Thr Phe Thr Gly Phe  
 1 5 10 15

Ile Leu Leu Gly Phe Pro Cys Pro Arg Glu Gly Gln Ile Leu Leu Phe  
 20 25 30

Val Leu Phe Thr Val Val Tyr Leu Leu Thr Leu Met Gly Asn Gly Ser  
 35 40 45

Ile Ile Cys Ala Val His Trp Asp Gln Arg Leu His Ala Pro Met Tyr  
 50 55 60

Ile Leu Leu Ala Asn Phe Ser Phe Leu Glu Ile Cys Tyr Val Thr Ser  
 65 70 75 80

Thr Val Pro Ser Met Leu Ala Asn Phe Leu Ser Asp Thr Lys Ile Ile  
 85 90 95

Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly  
 100 105 110

Ser Thr Glu Cys Phe Phe Leu Ala Val Met Ala Phe Asp Arg Tyr Leu  
 115 120 125

Ala Ile Cys Arg Pro Leu Arg Tyr Pro Thr Ile Met Thr Arg Arg Leu  
 130 135 140

Cys Thr Asn Leu Val Val Asn Cys Trp Val Leu Gly Phe Ile Trp Phe  
 145 150 155 160

Leu Ile Pro Ile Val Asn Ile Ser Gln Met Ser Phe Cys Gly Ser Arg  
 165 170 175

Ile Ile Asp His Phe Leu Cys Asp Pro Ala Pro Leu Leu Thr Leu Thr  
 180 185 190

Cys Lys Lys Gly Pro Val Ile Glu Leu Val Phe Ser Val Leu Ser Pro  
 195 200 205

Leu Pro Val Phe Met Leu Phe Leu Phe Ile Val Gly Ser Tyr Ala Leu  
 210 215 220

Val Val Arg Ala Val Leu Arg Val Pro Ser Ala Ala Gly Arg Arg Lys  
 225 230 235 240

Ala Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr  
 245 250 255

Gly Ser Val Leu Val Met Tyr Gly Ser Pro Pro Ser Lys Asn Glu Ala  
 260 265 270

Gly Lys Gln Lys Thr Val Thr Leu Phe Tyr Ser Val Val Thr Pro Leu  
 275 280 285

Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Lys Asp Met Arg Lys Ala  
 290 295 300

Leu Lys Lys Phe Trp Gly Thr  
 305 310

<210> 215  
 <211> 993  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (990)  
 <223>

<400> 215  
 atg ttc ttt att att cat tct ttg gtt act tct gtt ttt cta aca gct

48

Met	Phe	Phe	Ile	Ile	His	Ser	Leu	Val	Thr	Ser	Val	Phe	Leu	Thr	Ala	
1				5					10					15		
ttg	gga	ccc	cag	aac	aga	aca	atg	cat	ttt	gtg	act	gag	ttt	gtc	ctc	96
Leu	Gly	Pro	Gln	Asn	Arg	Thr	Met	His	Phe	Val	Thr	Glu	Phe	Val	Leu	
			20				25						30			
ctg	ggt	ttc	cat	ggt	caa	agg	gag	atg	cag	agc	tgc	ttc	ttc	tca	ttc	144
Leu	Gly	Phe	His	Gly	Gln	Arg	Glu	Met	Gln	Ser	Cys	Phe	Phe	Ser	Phe	
		35					40					45				
atc	ctg	gtt	ctc	tat	ctc	ctg	aca	ctg	cta	ggg	aat	gga	gct	att	gtc	192
Ile	Leu	Val	Leu	Tyr	Leu	Leu	Thr	Leu	Leu	Gly	Asn	Gly	Ala	Ile	Val	
	50					55				60						
tgt	gca	gtg	aaa	ttg	gac	agg	cgg	ctc	cac	aca	ccc	atg	tac	atc	ctt	240
Cys	Ala	Val	Lys	Leu	Asp	Arg	Arg	Leu	His	Thr	Pro	Met	Tyr	Ile	Leu	
65					70					75					80	
ctg	gga	aac	ttt	gcc	ttt	cta	gag	atc	tgg	tac	att	tcc	tcc	act	gtc	288
Leu	Gly	Asn	Phe	Ala	Phe	Leu	Glu	Ile	Trp	Tyr	Ile	Ser	Ser	Thr	Val	
			85						90					95		
cca	aac	atg	cta	gtc	aat	atc	ctc	tct	gag	att	aaa	acc	atc	tcc	ttc	336
Pro	Asn	Met	Leu	Val	Asn	Ile	Leu	Ser	Glu	Ile	Lys	Thr	Ile	Ser	Phe	
			100					105					110			
tct	ggt	tgc	ttc	ctg	caa	ttc	tat	ttc	ttt	ttt	tca	ctg	ggt	aca	aca	384
Ser	Gly	Cys	Phe	Leu	Gln	Phe	Tyr	Phe	Phe	Phe	Ser	Leu	Gly	Thr	Thr	
		115					120					125				
gag	tgt	ttc	ttt	tta	tca	gtt	atg	gct	tat	gat	cgg	tac	ctg	gcc	atc	432
Glu	Cys	Phe	Phe	Leu	Ser	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Leu	Ala	Ile	
	130					135					140					
tgt	cgt	cca	tta	cac	tac	ccc	tcc	atc	atg	act	ggg	aag	ttc	tgt	ata	480
Cys	Arg	Pro	Leu	His	Tyr	Pro	Ser	Ile	Met	Thr	Gly	Lys	Phe	Cys	Ile	
145					150					155					160	
att	ctg	gtc	tgt	gta	tgc	tgg	gta	ggc	gga	ttt	ctc	tgc	tat	cca	gtc	528
Ile	Leu	Val	Cys	Val	Cys	Trp	Val	Gly	Gly	Phe	Leu	Cys	Tyr	Pro	Val	
				165				170						175		
cct	att	gtt	ctt	atc	tcc	caa	ctt	ccc	ttc	tgt	ggg	ccc	aac	atc	att	576
Pro	Ile	Val	Leu	Ile	Ser	Gln	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Ile	Ile	
			180					185					190			
gac	cac	ttg	gtg	tgt	gac	cca	ggc	cca	ttg	ttt	gca	ctg	gcc	tgc	atc	624
Asp	His	Leu	Val	Cys	Asp	Pro	Gly	Pro	Leu	Phe	Ala	Leu	Ala	Cys	Ile	
		195					200					205				
tct	gct	cct	tcc	act	gag	ctt	atc	tgt	tac	acc	ttc	aac	tcg	atg	att	672
Ser	Ala	Pro	Ser	Thr	Glu	Leu	Ile	Cys	Tyr	Thr	Phe	Asn	Ser	Met	Ile	
	210					215					220					
atc	ttt	ggg	ccc	ttc	ctc	tcc	atc	ttg	gga	tct	tac	act	ctg	gtc	atc	720
Ile	Phe	Gly	Pro	Phe	Leu	Ser	Ile	Leu	Gly	Ser	Tyr	Thr	Leu	Val	Ile	
225					230					235					240	
aga	gct	gtg	ctt	tgt	att	ccc	tct	ggt	gct	ggt	cga	act	aaa	gct	ttc	768
Arg	Ala	Val	Leu	Cys	Ile	Pro	Ser	Gly	Ala	Gly	Arg	Thr	Lys	Ala	Phe	

	245	250	255	
tcc aca tgt ggg tcc cac cta atg gtg gtg tct cta ttc tat gga acc				816
Ser Thr Cys Gly Ser His Leu Met Val Val Ser Leu Phe Tyr Gly Thr				
	260	265	270	
ctt atg gtg atg tat gtg agc cca aca tca ggg aac cca gca gga atg				864
Leu Met Val Met Tyr Val Ser Pro Thr Ser Gly Asn Pro Ala Gly Met				
	275	280	285	
cag aag atc atc act ctg gta tac aca gca atg act cca ttc tta aat				912
Gln Lys Ile Ile Thr Leu Val Tyr Thr Ala Met Thr Pro Phe Leu Asn				
	290	295	300	
ccc ctt atc tat agt ctt cga aac aaa gac atg aaa gat gct cta aag				960
Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys				
	305	310	315	320
aga gtc ctg ggg tta aca gtt agc caa aac tga				993
Arg Val Leu Gly Leu Thr Val Ser Gln Asn				
	325	330		

<210> 216  
 <211> 330  
 <212> PRT  
 <213> Homo Sapiens

<400> 216

Met Phe Phe Ile Ile His Ser Leu Val Thr Ser Val Phe Leu Thr Ala  
 1 5 10 15

Leu Gly Pro Gln Asn Arg Thr Met His Phe Val Thr Glu Phe Val Leu  
 20 25 30

Leu Gly Phe His Gly Gln Arg Glu Met Gln Ser Cys Phe Phe Ser Phe  
 35 40 45

Ile Leu Val Leu Tyr Leu Leu Thr Leu Leu Gly Asn Gly Ala Ile Val  
 50 55 60

Cys Ala Val Lys Leu Asp Arg Arg Leu His Thr Pro Met Tyr Ile Leu  
 65 70 75 80

Leu Gly Asn Phe Ala Phe Leu Glu Ile Trp Tyr Ile Ser Ser Thr Val  
 85 90 95

Pro Asn Met Leu Val Asn Ile Leu Ser Glu Ile Lys Thr Ile Ser Phe  
 100 105 110

Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr  
 115 120 125

Glu Cys Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile  
 130 135 140

Cys Arg Pro Leu His Tyr Pro Ser Ile Met Thr Gly Lys Phe Cys Ile  
 145 150 155 160

Ile Leu Val Cys Val Cys Trp Val Gly Gly Phe Leu Cys Tyr Pro Val  
 165 170 175

Pro Ile Val Leu Ile Ser Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile  
 180 185 190

Asp His Leu Val Cys Asp Pro Gly Pro Leu Phe Ala Leu Ala Cys Ile  
 195 200 205

Ser Ala Pro Ser Thr Glu Leu Ile Cys Tyr Thr Phe Asn Ser Met Ile  
 210 215 220

Ile Phe Gly Pro Phe Leu Ser Ile Leu Gly Ser Tyr Thr Leu Val Ile  
 225 230 235 240

Arg Ala Val Leu Cys Ile Pro Ser Gly Ala Gly Arg Thr Lys Ala Phe  
 245 250 255

Ser Thr Cys Gly Ser His Leu Met Val Val Ser Leu Phe Tyr Gly Thr  
 260 265 270

Leu Met Val Met Tyr Val Ser Pro Thr Ser Gly Asn Pro Ala Gly Met  
 275 280 285

Gln Lys Ile Ile Thr Leu Val Tyr Thr Ala Met Thr Pro Phe Leu Asn  
 290 295 300

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys  
 305 310 315 320

Arg Val Leu Gly Leu Thr Val Ser Gln Asn  
 325 330

<210> 217  
 <211> 975  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (972)



&lt;223&gt;

&lt;400&gt; 217

atg tct ttc ttc ttt gta gac tta aga ccc atg aac agg tca gca aca	48
Met Ser Phe Phe Phe Val Asp Leu Arg Pro Met Asn Arg Ser Ala Thr	
1 5 10 15	
cac atc gtg aca gag ttt att ctc ctg gga ttc cct ggt tgc tgg aag	96
His Ile Val Thr Glu Phe Ile Leu Leu Gly Phe Pro Gly Cys Trp Lys	
20 25 30	
att cag att ttc ctc ttc tca ttg ttt ttg gtg att tat gtc ttg acc	144
Ile Gln Ile Phe Leu Phe Ser Leu Phe Leu Val Ile Tyr Val Leu Thr	
35 40 45	
ttg ctg gga aat gga gcc atc atc tat gca gtg aga tgc aac cca cta	192
Leu Leu Gly Asn Gly Ala Ile Ile Tyr Ala Val Arg Cys Asn Pro Leu	
50 55 60	
cta cac acc ccc atg tac ttt ctg ctg gga aat ttt gcc ttc ctt gag	240
Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ala Phe Leu Glu	
65 70 75 80	
atc tgg tat gtg tcc tcc act att cct aac atg cta gtc aac att ctc	288
Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Met Leu Val Asn Ile Leu	
85 90 95	
tcc aag acc aag gcc atc tca ttt tct ggg tgc ttc ctc cag ttc tat	336
Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr	
100 105 110	
ttc ttc ttt tca ctg gga aca act gaa tgt ctc ttt ctg gca gta atg	384
Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met	
115 120 125	
gct tat gat cga tac ctg gcc atc tgc cac cca ctg cag tac cct gcc	432
Ala Tyr Asp Arg Tyr Leu Ala Ile Cys His Pro Leu Gln Tyr Pro Ala	
130 135 140	
atc atg act gta agg ttc tgt ggt aag ctg gtg tct ttc tgt tgg ctt	480
Ile Met Thr Val Arg Phe Cys Gly Lys Leu Val Ser Phe Cys Trp Leu	
145 150 155 160	
att gga ttc ctt gga tac cca att ccc att ttc tac atc tcc caa ctc	528
Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Tyr Ile Ser Gln Leu	
165 170 175	
ccc ttc tgt ggt cct aat atc att gat cac ttc ctg tgt gac atg gac	576
Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp	
180 185 190	
cca ttg atg gct cta tcc tgt gcc cca gct ccc ata act gaa tgt att	624
Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Cys Ile	
195 200 205	
ttc tat act cag agc tcc ctt gtc ctc ttt ttc act agt atg tac att	672
Phe Tyr Thr Gln Ser Ser Leu Val Leu Phe Phe Thr Ser Met Tyr Ile	
210 215 220	
ctt cga tcc tat atc ctg tta cta aca gct gtt ttt cag gtc cct tct	720

Leu Arg Ser Tyr Ile Leu Leu Leu Thr Ala Val Phe Gln Val Pro Ser  
 225 230 235 240  
 gca gct ggt cgg aga aaa gcc ttc tct acc tgt ggt tct cat ttg gtt 768  
 Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val  
 245 250 255  
 gtg gta tct ctt ttc tat ggg aca gtc atg gta atg tat gta agt cct 816  
 Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro  
 260 265 270  
 aca tat ggg atc cca act tta ttg cag aag atc ctc aca ctg gta tat 864  
 Thr Tyr Gly Ile Pro Thr Leu Leu Gln Lys Ile Leu Thr Leu Val Tyr  
 275 280 285  
 tca gta acg act cct ctt ttt aat cct ctg atc tat act ctt cgt aat 912  
 Ser Val Thr Thr Pro Leu Phe Asn Pro Leu Ile Tyr Thr Leu Arg Asn  
 290 295 300  
 aag gac atg aaa ctc gct ctg aga aat gtc ctg ttt gga atg aga att 960  
 Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Phe Gly Met Arg Ile  
 305 310 315 320  
 cgt caa aat tcg tga 975  
 Arg Gln Asn Ser

<210> 218  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 218

Met Ser Phe Phe Phe Val Asp Leu Arg Pro Met Asn Arg Ser Ala Thr  
 1 5 10 15  
 His Ile Val Thr Glu Phe Ile Leu Leu Gly Phe Pro Gly Cys Trp Lys  
 20 25 30  
 Ile Gln Ile Phe Leu Phe Ser Leu Phe Leu Val Ile Tyr Val Leu Thr  
 35 40 45  
 Leu Leu Gly Asn Gly Ala Ile Ile Tyr Ala Val Arg Cys Asn Pro Leu  
 50 55 60  
 Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ala Phe Leu Glu  
 65 70 75 80  
 Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Met Leu Val Asn Ile Leu  
 85 90 95  
 Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr  
 100 105 110

Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met  
 115 120 125

Ala Tyr Asp Arg Tyr Leu Ala Ile Cys His Pro Leu Gln Tyr Pro Ala  
 130 135 140

Ile Met Thr Val Arg Phe Cys Gly Lys Leu Val Ser Phe Cys Trp Leu  
 145 150 155 160

Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Tyr Ile Ser Gln Leu  
 165 170 175

Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp  
 180 185 190

Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Cys Ile  
 195 200 205

Phe Tyr Thr Gln Ser Ser Leu Val Leu Phe Phe Thr Ser Met Tyr Ile  
 210 215 220

Leu Arg Ser Tyr Ile Leu Leu Leu Thr Ala Val Phe Gln Val Pro Ser  
 225 230 235 240

Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val  
 245 250 255

Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro  
 260 265 270

Thr Tyr Gly Ile Pro Thr Leu Leu Gln Lys Ile Leu Thr Leu Val Tyr  
 275 280 285

Ser Val Thr Thr Pro Leu Phe Asn Pro Leu Ile Tyr Thr Leu Arg Asn  
 290 295 300

Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Phe Gly Met Arg Ile  
 305 310 315 320

Arg Gln Asn Ser

<210> 219  
 <211> 933  
 <212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(930)

&lt;223&gt;

&lt;400&gt; 219

atg gca gag atg aac ctc acc ttg gtg acc gag ttc ctc ctt att gca	48
Met Ala Glu Met Asn Leu Thr Leu Val Thr Glu Phe Leu Leu Ile Ala	
1 5 10 15	

ttc act gaa tat cct gaa tgg gca ctc cct ctc ttc ctc ttg tta tta	96
Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Leu Leu	
20 25 30	

ttt atg tat ctc atc acc gta ttg ggg aac tta gag atg att att ctg	144
Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu	
35 40 45	

atc ctc atg gat cac cag ctc cac gct cca atg tat ttc ctt ctg agt	192
Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser	
50 55 60	

cac ctc gct ttc atg gac gtc tgc tac tca tct atc act gtc ccc cag	240
His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln	
65 70 75 80	

atg ctg gca gtg ctg ctg gag cat ggg gca gct tta tct tac aca cgc	288
Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg	
85 90 95	

tgt gct gct cag ttc ttt ctg ttc acc ttc ttt ggt tcc atc gac tgc	336
Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys	
100 105 110	

tac ctc ttg gcc ctc atg gcc tat gac cgc tac ttg gct gtg tgc cag	384
Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln	
115 120 125	

ccc ctg ctt tat gtc acc atc ctg aca cag cag gcc cgc ttg agt ctt	432
Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu	
130 135 140	

gtg gct ggg gct tac gtt gct ggt ctc atc agt gcc ttg gtg cgg aca	480
Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr	
145 150 155 160	

gtc tca gcc ttc act ctc tcc ttc tgt gga acc agt gag att gac ttt	528
Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe	
165 170 175	

att ttc tgt gac ctc cct cct ctg tta aag ttg acc tgt ggg gag agc	576
Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser	
180 185 190	

tac act caa gaa gtg ctg att att atg ttt gcc att ttt gtc atc cct	624
Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro	
195 200 205	

gct tcc atg gtg gtg atc ttg gtg tcc tac ctg ttt atc atc gtg gcc 672  
 Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala  
 210 215 220

atc atg ggg atc cct gct gga agc cag gcc aag acc ttc tcc acc tgc 720  
 Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys  
 225 230 235 240

acc tcc cac ctc act gct gtg tca ctc ttc ttt ggt acc ctc atc ttc 768  
 Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe  
 245 250 255

atg tac ttg aga ggt aac tca gat cag tct tcg gag aag aat cgg gta 816  
 Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val  
 260 265 270

gtg tct gtg ctt tac aca gag gtc atc ccc atg ttg aat ccc ctc atc 864  
 Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285

tac agc ctg agg aac aag gaa gtg aag gag gcc ctg aga aaa att ctc 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu  
 290 295 300

aat aga gcc aag ttg tcc taa 933  
 Asn Arg Ala Lys Leu Ser  
 305 310

<210> 220  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 220

Met Ala Glu Met Asn Leu Thr Leu Val Thr Glu Phe Leu Leu Ile Ala  
 1 5 10 15

Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Leu  
 20 25 30

Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu  
 35 40 45

Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln  
 65 70 75 80

Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg  
 85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys

100					105					110					
Tyr	Leu	Leu	Ala	Leu	Met	Ala	Tyr	Asp	Arg	Tyr	Leu	Ala	Val	Cys	Gln
	115						120					125			
Pro	Leu	Leu	Tyr	Val	Thr	Ile	Leu	Thr	Gln	Gln	Ala	Arg	Leu	Ser	Leu
	130					135					140				
Val	Ala	Gly	Ala	Tyr	Val	Ala	Gly	Leu	Ile	Ser	Ala	Leu	Val	Arg	Thr
145					150					155					160
Val	Ser	Ala	Phe	Thr	Leu	Ser	Phe	Cys	Gly	Thr	Ser	Glu	Ile	Asp	Phe
			165						170					175	
Ile	Phe	Cys	Asp	Leu	Pro	Pro	Leu	Leu	Lys	Leu	Thr	Cys	Gly	Glu	Ser
			180					185					190		
Tyr	Thr	Gln	Glu	Val	Leu	Ile	Ile	Met	Phe	Ala	Ile	Phe	Val	Ile	Pro
		195					200					205			
Ala	Ser	Met	Val	Val	Ile	Leu	Val	Ser	Tyr	Leu	Phe	Ile	Ile	Val	Ala
		210					215				220				
Ile	Met	Gly	Ile	Pro	Ala	Gly	Ser	Gln	Ala	Lys	Thr	Phe	Ser	Thr	Cys
225						230					235				240
Thr	Ser	His	Leu	Thr	Ala	Val	Ser	Leu	Phe	Phe	Gly	Thr	Leu	Ile	Phe
				245					250					255	
Met	Tyr	Leu	Arg	Gly	Asn	Ser	Asp	Gln	Ser	Ser	Glu	Lys	Asn	Arg	Val
			260					265					270		
Val	Ser	Val	Leu	Tyr	Thr	Glu	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu	Ile
		275					280					285			
Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys	Glu	Ala	Leu	Arg	Lys	Ile	Leu
		290				295					300				
Asn	Arg	Ala	Lys	Leu	Ser										
305					310										

<210> 221  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>

&lt;221&gt; CDS

&lt;222&gt; (1) .. (933)

&lt;223&gt;

&lt;400&gt; 221

atg ggg act gga aat gac acc act gtg gta gag ttt act ctt ttg ggg	48
Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly	
1 5 10 15	
tta tct gag gat act aca gtt tgt gct att tta ttt ctt gtg ttt cta	96
Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu	
20 25 30	
gga att tat gtt gtc acc tta atg ggt aat atc agc ata att gta ttg	144
Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu	
35 40 45	
atc aga aga agt cat cat ctt cat aca ccc atg tac att ttc ctc tgc	192
Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys	
50 55 60	
cat ttg gcc ttt gta gac att ggg tac tcc tca tca gtc aca cct gtc	240
His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val	
65 70 75 80	
atg ctc atg agc ttc cta agg aaa gaa acc tct ctc cct gtt gct ggt	288
Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly	
85 90 95	
tgt gtg gcc cag ctc tgt tct gta gtg acg ttt ggt acg gcc gag tgc	336
Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys	
100 105 110	
ttc ctg ctg gct gcc atg gcc tat gat cgc tat gtg gcc atc tgc tca	384
Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	
ccc ctg ctc tac tct acc tgc atg tcc cct gga gtc tgc atc atc tta	432
Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu	
130 135 140	
gtg ggc atg tcc tac ctg ggt gga tgt gtg aat gct tgg aca ttc att	480
Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Trp Thr Phe Ile	
145 150 155 160	
ggc tgc tta tta aga ctg tcc ttc tgt ggg cca aat aaa gtc aat cac	528
Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His	
165 170 175	
ttt ttc tgt gac tat tca cca ctt ttg aag ctt gct tgt tcc cat gat	576
Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp	
180 185 190	
ttt act ttt gaa ata att cca gct atc tct tct gga tct atc att gtg	624
Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Ser Gly Ser Ile Ile Val	
195 200 205	
gcc act gtg tgt gtc ata gcc ata tcc tac atc tat atc ctc atc acc	672
Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr	
210 215 220	

atc ctg aag atg cac tcc acc aag ggc cgc cac aag gcc ttc tcc acc 720  
 Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
  
 tgc acc tcc cac ctc act gca gtc act ctg ttc tat ggg acc att acc 768  
 Cys Thr Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Thr Ile Thr  
 245 250 255  
  
 ttc att tat gtg atg ccc aag tcc agc tac tca act gac cag aac aag 816  
 Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys  
 260 265 270  
  
 gtg gtg tct gtg ttc tac acc gtg gtg att ccc atg ttg aac ccc ctg 864  
 Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
  
 atc tac agc ctc agg aac aag gag att aag ggg gct ctg aag aga gag 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu  
 290 295 300  
  
 ctt aga ata aaa ata ttt tct tga 936  
 Leu Arg Ile Lys Ile Phe Ser  
 305 310

<210> 222  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 222

Met Gly Thr Gly Asn Asp Thr Thr Val Val Glu Phe Thr Leu Leu Gly  
 1 5 10 15  
  
 Leu Ser Glu Asp Thr Thr Val Cys Ala Ile Leu Phe Leu Val Phe Leu  
 20 25 30  
  
 Gly Ile Tyr Val Val Thr Leu Met Gly Asn Ile Ser Ile Ile Val Leu  
 35 40 45  
  
 Ile Arg Arg Ser His His Leu His Thr Pro Met Tyr Ile Phe Leu Cys  
 50 55 60  
  
 His Leu Ala Phe Val Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Val  
 65 70 75 80  
  
 Met Leu Met Ser Phe Leu Arg Lys Glu Thr Ser Leu Pro Val Ala Gly  
 85 90 95  
  
 Cys Val Ala Gln Leu Cys Ser Val Val Thr Phe Gly Thr Ala Glu Cys  
 100 105 110



Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125  
 Pro Leu Leu Tyr Ser Thr Cys Met Ser Pro Gly Val Cys Ile Ile Leu  
 130 135 140  
 Val Gly Met Ser Tyr Leu Gly Gly Cys Val Asn Ala Trp Thr Phe Ile  
 145 150 155 160  
 Gly Cys Leu Leu Arg Leu Ser Phe Cys Gly Pro Asn Lys Val Asn His  
 165 170 175  
 Phe Phe Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ala Cys Ser His Asp  
 180 185 190  
 Phe Thr Phe Glu Ile Ile Pro Ala Ile Ser Ser Gly Ser Ile Ile Val  
 195 200 205  
 Ala Thr Val Cys Val Ile Ala Ile Ser Tyr Ile Tyr Ile Leu Ile Thr  
 210 215 220  
 Ile Leu Lys Met His Ser Thr Lys Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Thr Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Thr Ile Thr  
 245 250 255  
 Phe Ile Tyr Val Met Pro Lys Ser Ser Tyr Ser Thr Asp Gln Asn Lys  
 260 265 270  
 Val Val Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Gly Ala Leu Lys Arg Glu  
 290 295 300  
 Leu Arg Ile Lys Ile Phe Ser  
 305 310

<210> 223  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

334

225	230	235	240	
gcc tcc cac tgt att gtg gtc ctt tgc ttc ttt gtt ccc tgt gtt gtc				768
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val	245	250	255	
att tat ctg agg cca ggc tcc atg gat gcc atg gat gga gtt gtg gcc				816
Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala	260	265	270	
att ttc tac act gtg ctg acg ccc ctt ctc aac cct gtt gtg tac acc				864
Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr	275	280	285	
ctg aga aac aag gag gtg aag aaa gct gtg ttg aaa ctt aga gac aaa				912
Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys	290	295	300	
gta gca cat cct cag agg aaa taa				936
Val Ala His Pro Gln Arg Lys	305	310		
<210> 224				
<211> 311				
<212> PRT				
<213> Homo Sapiens				
<400> 224				
Met Ser Asn Ala Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro				
1	5	10	15	
His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val	20	25	30	
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg	35	40	45	
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu	50	55	60	
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu	65	70	75	80
Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys	85	90	95	
Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe	100	105	110	
Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro	115	120	125	

Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala  
 130 135 140

Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly  
 195 200 205

Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Arg Ala Phe Gln Thr Cys  
 225 230 235 240

Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val  
 245 250 255

Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala  
 260 265 270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
 275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys  
 290 295 300

Val Ala His Pro Gln Arg Lys  
 305 310

<210> 225  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(933)  
 <223>

<220>

<221> misc\_feature  
 <222> (756)..(757)  
 <223> Uncertain nucleotide

<400> 225  
 atg tcc aag acc agc ctc gtg aca gcg ttc atc ctc acg ggc ctt ccc 48  
 Met Ser Lys Thr Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro  
 1 5 10 15

cat gcc cca ggg ctg gac gcc cca ctc ttt gga atc ttc ctg gtg gtt 96  
 His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val  
 20 25 30

tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg 144  
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
 35 40 45

gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg 192  
 Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu  
 50 55 60

tcc ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg 240  
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu  
 65 70 75 80

atg acc ttg gtg tcc cca agc ggc agg gct atc tcc ttc cac agc tgc 288  
 Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
 85 90 95

gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc 336  
 Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
 100 105 110

ctc tac aca gtc atg tcc tat gat cgc tac ttg gcc atc agt tac ccg 384  
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125

ctc agg tac acc agc atg atg agt ggg agc aga tgt gcc ctc ctg gcc 432  
 Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala  
 130 135 140

acc agc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata 480  
 Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tat 528  
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

ttg tgt gat gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca 576  
 Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

gcc aac gag atg gtc atc ttt gtg gac att ggg cta gtg gcc tcg ggc 624  
 Ala Asn Glu Met Val Ile Phe Val Asp Ile Gly Leu Val Ala Ser Gly  
 195 200 205

tgc ttt ctc ctg ata gtg ctg tct tat gtg tcc atc gtc tgt tcc atc 672  
 Cys Phe Leu Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

```

ctg cgg atc cac acc tca gag ggg agg cac aga gcc ttt cag acc tgt      720
Leu Arg Ile His Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys
225                               230                               235                               240

gcc tcc cac tgc atc gtg gtc ctt tgc ttt ttt gtn ncc tgt gtt ttc      768
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Xaa Cys Val Phe
                245                               250                               255

att tac ctg aga cca ggc tcc agg gac gtc gtg gat gga gtt gtg gcc      816
Ile Tyr Leu Arg Pro Gly Ser Arg Asp Val Val Asp Gly Val Val Ala
                260                               265                               270

att ttc tac act gtg ctg aca ccc ctt ctc aac cct gtt gtg tac acc      864
Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr
                275                               280                               285

ctg aga aac aag gag gtg aag aaa gct gtg ttg aaa ctg aga gac aaa      912
Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys
                290                               295                               300

gta gca cat tct cag gga gaa taa      936
Val Ala His Ser Gln Gly Glu
305                               310

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<210> 226
<211> 311
<212> PRT
<213> Homo Sapiens

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<220>
<221> misc_feature
<222> (253)..(253)
<223> The 'Xaa' at location 253 stands for Thr, Ala, Pro, or Ser.

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<220>
<221> misc_feature
<222> (756)..(757)
<223> Uncertain nucleotide

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<400> 226

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Met Ser Lys Thr Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro
1                               5                               10                               15

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```

His Ala Pro Gly Leu Asp Ala Pro Leu Phe Gly Ile Phe Leu Val Val
                20                               25                               30

```

```

Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg
                35                               40                               45

```

```

Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu
                50                               55                               60

```

```

Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu
                65                               70                               75                               80

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Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
 85 90 95

Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe  
 100 105 110

Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125

Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala  
 130 135 140

Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile  
 145 150 155 160

Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr  
 165 170 175

Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190

Ala Asn Glu Met Val Ile Phe Val Asp Ile Gly Leu Val Ala Ser Gly  
 195 200 205

Cys Phe Leu Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

Leu Arg Ile His Thr Ser Glu Gly Arg His Arg Ala Phe Gln Thr Cys  
 225 230 235 240

Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Xaa Cys Val Phe  
 245 250 255

Ile Tyr Leu Arg Pro Gly Ser Arg Asp Val Val Asp Gly Val Val Ala  
 260 265 270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
 275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys  
 290 295 300

Val Ala His Ser Gln Gly Glu  
 305 310

<210> 227  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (933)  
 <223>

<400> 227  
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 Met Ser Asn Ala Ser Leu Leu Thr Ala Phe Ile Leu Met Gly Leu Pro  
 1 5 10 15  
 cat gcc cca gcg ctg gac gcc ccc ctc ttt gga gtc ttc ctg gtg gtt 96  
 His Ala Pro Ala Leu Asp Ala Pro Leu Phe Gly Val Phe Leu Val Val  
 20 25 30  
 tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg 144  
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
 35 40 45  
 gtg gat tct cac ctc cac acc acc atg tac tac ttc ctc acc aac ctg 192  
 Val Asp Ser His Leu His Thr Thr Met Tyr Tyr Phe Leu Thr Asn Leu  
 50 55 60  
 tcg ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa ttg ctg 240  
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Leu Leu  
 65 70 75 80  
 atg act ttg gtg ttc cca agt ggc agg gct atc tcc ttc cac agc tgc 288  
 Met Thr Leu Val Phe Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys  
 85 90 95  
 atg gct cag ctc tat ttc ttt cac ttc cta ggg ggc acc gag tgt ttc 336  
 Met Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Gly Thr Glu Cys Phe  
 100 105 110  
 ctc tac agg gtc atg tcc tgt gat cgc tac ctg gcc atc agt tac ccg 384  
 Leu Tyr Arg Val Met Ser Cys Asp Arg Tyr Leu Ala Ile Ser Tyr Pro  
 115 120 125  
 ctc agg tac acc agc atg atg act ggg cgc tcg tgt act ctt ctg gcc 432  
 Leu Arg Tyr Thr Ser Met Met Thr Gly Arg Ser Cys Thr Leu Leu Ala  
 130 135 140  
 acc agc act tgg ctc agt ggc tct ctg cac tct gct gtc cag gcc ata 480  
 Thr Ser Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Ala Ile  
 145 150 155 160  
 ttg act ttc cat ttg ccc tac tgt gga ccc aac tgg atc cag cac tat 528  
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Trp Ile Gln His Tyr  
 165 170 175  
 ttg tgt gat gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca 576  
 Leu Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser  
 180 185 190



gcc ata gag act gtc att ttt gtg act gtt gga ata gtg gcc tcg ggc 624  
 Ala Ile Glu Thr Val Ile Phe Val Thr Val Gly Ile Val Ala Ser Gly  
 195 200 205

tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc 672  
 Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile  
 210 215 220

ctg cgg atc cgc acc tca gag ggg aag cac aga gcc ttt cag acc tgt 720  
 Leu Arg Ile Arg Thr Ser Glu Gly Lys His Arg Ala Phe Gln Thr Cys  
 225 230 235 240

gcc tcc cac tgt atc gtg gtc ctt tgc ttc ttt ggc cct ggt ctt ttc 768  
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Gly Pro Gly Leu Phe  
 245 250 255

att tac ctg agg cca ggc tcc agg aaa gct gtg gat gga gtt gtg gcc 816  
 Ile Tyr Leu Arg Pro Gly Ser Arg Lys Ala Val Asp Gly Val Val Ala  
 260 265 270

gtt ttc tac act gtg ctg acg ccc ctt ctc aac cct gtt gtg tac acc 864  
 Val Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr  
 275 280 285

ctg agg aac aag gag gtg aag aaa gct ctg ttg aag ctg aaa gac aaa 912  
 Leu Arg Asn Lys Glu Val Lys Lys Ala Leu Leu Lys Leu Lys Asp Lys  
 290 295 300

gta gca cat tct cag agc aaa tag 936  
 Val Ala His Ser Gln Ser Lys  
 305 310

<210> 228  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 228

Met Ser Asn Ala Ser Leu Leu Thr Ala Phe Ile Leu Met Gly Leu Pro  
 1 5 10 15

His Ala Pro Ala Leu Asp Ala Pro Leu Phe Gly Val Phe Leu Val Val  
 20 25 30

Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg  
 35 40 45

Val Asp Ser His Leu His Thr Thr Met Tyr Tyr Phe Leu Thr Asn Leu  
 50 55 60

Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Leu Leu  
 65 70 75 80

Met Thr Leu Val Phe Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys

85								90				95			
Met	Ala	Gln	Leu	Tyr	Phe	Phe	His	Phe	Leu	Gly	Gly	Thr	Glu	Cys	Phe
		100						105					110		
Leu	Tyr	Arg	Val	Met	Ser	Cys	Asp	Arg	Tyr	Leu	Ala	Ile	Ser	Tyr	Pro
		115					120					125			
Leu	Arg	Tyr	Thr	Ser	Met	Met	Thr	Gly	Arg	Ser	Cys	Thr	Leu	Leu	Ala
	130					135					140				
Thr	Ser	Thr	Trp	Leu	Ser	Gly	Ser	Leu	His	Ser	Ala	Val	Gln	Ala	Ile
145					150					155					160
Leu	Thr	Phe	His	Leu	Pro	Tyr	Cys	Gly	Pro	Asn	Trp	Ile	Gln	His	Tyr
				165					170					175	
Leu	Cys	Asp	Ala	Pro	Pro	Ile	Leu	Lys	Leu	Ala	Cys	Ala	Asp	Thr	Ser
			180					185					190		
Ala	Ile	Glu	Thr	Val	Ile	Phe	Val	Thr	Val	Gly	Ile	Val	Ala	Ser	Gly
		195					200					205			
Cys	Phe	Val	Leu	Ile	Val	Leu	Ser	Tyr	Val	Ser	Ile	Val	Cys	Ser	Ile
	210					215					220				
Leu	Arg	Ile	Arg	Thr	Ser	Glu	Gly	Lys	His	Arg	Ala	Phe	Gln	Thr	Cys
225					230					235					240
Ala	Ser	His	Cys	Ile	Val	Val	Leu	Cys	Phe	Phe	Gly	Pro	Gly	Leu	Phe
				245					250					255	
Ile	Tyr	Leu	Arg	Pro	Gly	Ser	Arg	Lys	Ala	Val	Asp	Gly	Val	Val	Ala
			260					265					270		
Val	Phe	Tyr	Thr	Val	Leu	Thr	Pro	Leu	Leu	Asn	Pro	Val	Val	Tyr	Thr
		275					280					285			
Leu	Arg	Asn	Lys	Glu	Val	Lys	Lys	Ala	Leu	Leu	Lys	Leu	Lys	Asp	Lys
	290					295					300				
Val	Ala	His	Ser	Gln	Ser	Lys									
305					310										
<210>	229														
<211>	933														

<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (930)  
<223>

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<400> 229
atg gat aaa gaa aac agc tca atg gtg act gag ttt atc ttc atg ggc      48
Met Asp Lys Glu Asn Ser Ser Met Val Thr Glu Phe Ile Phe Met Gly
1          5          10          15

atc acc cag gac cct cag atg gag atc atc ttc ttc gtg gtc ttc ctc      96
Ile Thr Gln Asp Pro Gln Met Glu Ile Ile Phe Phe Val Val Phe Leu
          20          25          30

ata gtt tac ctg gtt aat gta gtg ggg aat att ggt atg att atc ctg      144
Ile Val Tyr Leu Val Asn Val Val Gly Asn Ile Gly Met Ile Ile Leu
          35          40          45

att aca aca gac act cag ctt cac aca ccc atg tat ttt ttc ctc tgc      192
Ile Thr Thr Asp Thr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Cys
          50          55          60

aac ctc tcc ttt gtt gac ctg ggc tac tcc tca gcc att gcc ccc agg      240
Asn Leu Ser Phe Val Asp Leu Gly Tyr Ser Ser Ala Ile Ala Pro Arg
65          70          75          80

atg ctg gct gac ttc cta aca aat cac aaa gtt atc tcc ttc tcc agc      288
Met Leu Ala Asp Phe Leu Thr Asn His Lys Val Ile Ser Phe Ser Ser
          85          90          95

tgt gcc acc cag ttt gct ttt ttt gta ggt ttt gtg gat gct gag tgc      336
Cys Ala Thr Gln Phe Ala Phe Phe Val Gly Phe Val Asp Ala Glu Cys
          100          105          110

tat gtc ctg gca gcc atg gcc tat ggt cgt ttt gtg gcc att tgt cga      384
Tyr Val Leu Ala Ala Met Ala Tyr Gly Arg Phe Val Ala Ile Cys Arg
          115          120          125

ccc ctc cac tat agc acc ttc atg tcc aag cag gtc tgc ttg gct ctc      432
Pro Leu His Tyr Ser Thr Phe Met Ser Lys Gln Val Cys Leu Ala Leu
          130          135          140

atg ctg ggc tct tac ctg gct ggt cta gtg agt tta gta gcc cac act      480
Met Leu Gly Ser Tyr Leu Ala Gly Leu Val Ser Leu Val Ala His Thr
145          150          155          160

acc ctc acc ttc agc ctg agt tac tgt ggt tcc aat atc atc aat cat      528
Thr Leu Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Ile Ile Asn His
          165          170          175

ttc ttc tgc gaa atc cca cca ctc ttg gcc ctc tct tgc tca gac acc      576
Phe Phe Cys Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr
          180          185          190

tac atc agt gag atc ttg ctc ttc agt ctg tgt ggc ttc att gaa ttc      624
Tyr Ile Ser Glu Ile Leu Leu Phe Ser Leu Cys Gly Phe Ile Glu Phe
          195          200          205

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agc acc atc ctc atc atc ttc atc tcc tat acc ttt atc ctt gtt gca 672  
 Ser Thr Ile Leu Ile Ile Phe Ile Ser Tyr Thr Phe Ile Leu Val Ala  
 210 215 220  
 atc atc aga atg cgt tca gct gaa ggc cgc ctt aag gct ttc tcc acc 720  
 Ile Ile Arg Met Arg Ser Ala Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 225 230 235 240  
 tgc ggg tct cac ctt act ggc atc acc ctc ttc tat ggc aca gtc atg 768  
 Cys Gly Ser His Leu Thr Gly Ile Thr Leu Phe Tyr Gly Thr Val Met  
 245 250 255  
 ttt atg tac ctg agg cca aca tcc agc tac tcc ctg gac caa gac aag 816  
 Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Leu Asp Gln Asp Lys  
 260 265 270  
 tgg gcc tct gtg ttc tac acg gtt atc atc ccc atg tta aat ccc ttg 864  
 Trp Ala Ser Val Phe Tyr Thr Val Ile Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 atc tac agt ttg cgg aac aag gat gtg aaa gct gct ttc aaa aag cta 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Phe Lys Lys Leu  
 290 295 300  
 att gga aaa aaa tct caa taa 933  
 Ile Gly Lys Lys Ser Gln  
 305 310

<210> 230  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 230

Met Asp Lys Glu Asn Ser Ser Met Val Thr Glu Phe Ile Phe Met Gly  
 1 5 10 15  
 Ile Thr Gln Asp Pro Gln Met Glu Ile Ile Phe Phe Val Val Phe Leu  
 20 25 30  
 Ile Val Tyr Leu Val Asn Val Val Gly Asn Ile Gly Met Ile Ile Leu  
 35 40 45  
 Ile Thr Thr Asp Thr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Cys  
 50 55 60  
 Asn Leu Ser Phe Val Asp Leu Gly Tyr Ser Ser Ala Ile Ala Pro Arg  
 65 70 75 80  
 Met Leu Ala Asp Phe Leu Thr Asn His Lys Val Ile Ser Phe Ser Ser  
 85 90 95

Cys Ala Thr Gln Phe Ala Phe Phe Val Gly Phe Val Asp Ala Glu Cys  
 100 105 110

Tyr Val Leu Ala Ala Met Ala Tyr Gly Arg Phe Val Ala Ile Cys Arg  
 115 120 125

Pro Leu His Tyr Ser Thr Phe Met Ser Lys Gln Val Cys Leu Ala Leu  
 130 135 140

Met Leu Gly Ser Tyr Leu Ala Gly Leu Val Ser Leu Val Ala His Thr  
 145 150 155 160

Thr Leu Thr Phe Ser Leu Ser Tyr Cys Gly Ser Asn Ile Ile Asn His  
 165 170 175

Phe Phe Cys Glu Ile Pro Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
 180 185 190

Tyr Ile Ser Glu Ile Leu Leu Phe Ser Leu Cys Gly Phe Ile Glu Phe  
 195 200 205

Ser Thr Ile Leu Ile Ile Phe Ile Ser Tyr Thr Phe Ile Leu Val Ala  
 210 215 220

Ile Ile Arg Met Arg Ser Ala Glu Gly Arg Leu Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Thr Gly Ile Thr Leu Phe Tyr Gly Thr Val Met  
 245 250 255

Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Leu Asp Gln Asp Lys  
 260 265 270

Trp Ala Ser Val Phe Tyr Thr Val Ile Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Ala Ala Phe Lys Lys Leu  
 290 295 300

Ile Gly Lys Lys Ser Gln  
 305 310

<210> 231  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(939)

&lt;223&gt;

&lt;400&gt; 231

atg aaa gag gtt cga ggc aga aat caa aca gaa gta aca gaa ttt ctc	48
Met Lys Glu Val Arg Gly Arg Asn Gln Thr Glu Val Thr Glu Phe Leu	
1 5 10 15	
ctc tta gga ctt tcc gac aat cca gat cta caa gga gtc ctc ttt gca	96
Leu Leu Gly Leu Ser Asp Asn Pro Asp Leu Gln Gly Val Leu Phe Ala	
20 25 30	
ttg ttt ctg ttg atc tat atg gca aac atg gtg ggc aat ttg ggg atg	144
Leu Phe Leu Leu Ile Tyr Met Ala Asn Met Val Gly Asn Leu Gly Met	
35 40 45	
att gta ttg att aag att gat ctc tgt ctc cac acc ccc atg tat ttc	192
Ile Val Leu Ile Lys Ile Asp Leu Cys Leu His Thr Pro Met Tyr Phe	
50 55 60	
ttt ctc agt agc ctc tct ttt gta gat gcc tct tac tct tct tcc gtc	240
Phe Leu Ser Ser Leu Ser Phe Val Asp Ala Ser Tyr Ser Ser Ser Val	
65 70 75 80	
act ccc aag atg ctg gtg aac ctc atg gct gag aat aag gcc att tct	288
Thr Pro Lys Met Leu Val Asn Leu Met Ala Glu Asn Lys Ala Ile Ser	
85 90 95	
ttt cat gga tgt gct gcc cag ttc tac ttc ttt ggc tcc ttc ctg ggg	336
Phe His Gly Cys Ala Ala Gln Phe Tyr Phe Phe Gly Ser Phe Leu Gly	
100 105 110	
act gag tgc ttc ctg ttg gcc atg atg gca tat gac cgc tat gca gcc	384
Thr Glu Cys Phe Leu Leu Ala Met Met Ala Tyr Asp Arg Tyr Ala Ala	
115 120 125	
att tgg aac ccc ctg ctc tac cca gtt ctc gtg tct ggg aga att tgc	432
Ile Trp Asn Pro Leu Leu Tyr Pro Val Leu Val Ser Gly Arg Ile Cys	
130 135 140	
ttt ttg cta ata gct acc tcc ttc tta gca ggt tgt gga aat gca gcc	480
Phe Leu Leu Ile Ala Thr Ser Phe Leu Ala Gly Cys Gly Asn Ala Ala	
145 150 155 160	
ata cat aca ggg atg act ttt agg ttg tcc ttt tgt ggt tct aat agg	528
Ile His Thr Gly Met Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Arg	
165 170 175	
atc aac cat ttc tac tgt gac acc ccg cca ctg ctc aaa ctc tct tgc	576
Ile Asn His Phe Tyr Cys Asp Thr Pro Pro Leu Leu Lys Leu Ser Cys	
180 185 190	
tct gat acc cac ttc aat ggc att gtg atc atg gca ttc tca agt ttt	624
Ser Asp Thr His Phe Asn Gly Ile Val Ile Met Ala Phe Ser Ser Phe	
195 200 205	
att gtc atc agc tgt gtt atg att gtc ctc att tcc tac ctg tgt atc	672
Ile Val Ile Ser Cys Val Met Ile Val Leu Ile Ser Tyr Leu Cys Ile	

210	215	220	
ttc att gcc gtc ttg aag atg cct tcg tta gag ggc agg cac aaa gcc			720
Phe Ile Ala Val Leu Lys Met Pro Ser Leu Glu Gly Arg His Lys Ala			
225	230	235	240
ttc tcc acc tgt gcc tct tac ctc atg gct gtc acc ata ttc ttt gga			768
Phe Ser Thr Cys Ala Ser Tyr Leu Met Ala Val Thr Ile Phe Phe Gly			
245	250		255
aca atc ctc ttc atg tac ttg cgc cct aca tct agc tac tca atg gag			816
Thr Ile Leu Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Met Glu			
260	265		270
caa gac aag gtt gtc tct gtc ttt tat aca gta ata atc cct gtg cta			864
Gln Asp Lys Val Val Ser Val Phe Tyr Thr Val Ile Ile Pro Val Leu			
275	280		285
aat ccc ctc atc tat agt tta aaa aat aag gat gta aaa aag gcc cta			912
Asn Pro Leu Ile Tyr Ser Leu Lys Asn Lys Asp Val Lys Lys Ala Leu			
290	295	300	
aag aag atc tta tgg aaa cac atc ttg tag			942
Lys Lys Ile Leu Trp Lys His Ile Leu			
305	310		

<210> 232  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 232

Met Lys Glu Val Arg Gly Arg Asn Gln Thr Glu Val Thr Glu Phe Leu  
1 5 10 15

Leu Leu Gly Leu Ser Asp Asn Pro Asp Leu Gln Gly Val Leu Phe Ala  
20 25 30

Leu Phe Leu Leu Ile Tyr Met Ala Asn Met Val Gly Asn Leu Gly Met  
35 40 45

Ile Val Leu Ile Lys Ile Asp Leu Cys Leu His Thr Pro Met Tyr Phe  
50 55 60

Phe Leu Ser Ser Leu Ser Phe Val Asp Ala Ser Tyr Ser Ser Ser Val  
65 70 75 80

Thr Pro Lys Met Leu Val Asn Leu Met Ala Glu Asn Lys Ala Ile Ser  
85 90 95

Phe His Gly Cys Ala Ala Gln Phe Tyr Phe Phe Gly Ser Phe Leu Gly  
100 105 110

Thr Glu Cys Phe Leu Leu Ala Met Met Ala Tyr Asp Arg Tyr Ala Ala  
 115 120 125

Ile Trp Asn Pro Leu Leu Tyr Pro Val Leu Val Ser Gly Arg Ile Cys  
 130 135 140

Phe Leu Leu Ile Ala Thr Ser Phe Leu Ala Gly Cys Gly Asn Ala Ala  
 145 150 155 160

Ile His Thr Gly Met Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Arg  
 165 170 175

Ile Asn His Phe Tyr Cys Asp Thr Pro Pro Leu Leu Lys Leu Ser Cys  
 180 185 190

Ser Asp Thr His Phe Asn Gly Ile Val Ile Met Ala Phe Ser Ser Phe  
 195 200 205

Ile Val Ile Ser Cys Val Met Ile Val Leu Ile Ser Tyr Leu Cys Ile  
 210 215 220

Phe Ile Ala Val Leu Lys Met Pro Ser Leu Glu Gly Arg His Lys Ala  
 225 230 235 240

Phe Ser Thr Cys Ala Ser Tyr Leu Met Ala Val Thr Ile Phe Phe Gly  
 245 250 255

Thr Ile Leu Phe Met Tyr Leu Arg Pro Thr Ser Ser Tyr Ser Met Glu  
 260 265 270

Gln Asp Lys Val Val Ser Val Phe Tyr Thr Val Ile Ile Pro Val Leu  
 275 280 285

Asn Pro Leu Ile Tyr Ser Leu Lys Asn Lys Asp Val Lys Lys Ala Leu  
 290 295 300

Lys Lys Ile Leu Trp Lys His Ile Leu  
 305 310

<210> 233  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)



&lt;223&gt;

&lt;400&gt; 233

atg ttc tcc cca aac cac acc ata gtg aca gaa ttc att ctc ttg gga	48
Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ctg aca gac gac cca gtg cta gag aag atc ctg ttt ggg gta ttc ctt	96
Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu	
20 25 30	
gcg atc tac cta atc aca ctg gca ggc aac ctg tgc atg atc ctg ctg	144
Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu	
35 40 45	
atc agg acc aat tcc cac ctg caa aca ccc atg tat ttc ttc ctt ggc	192
Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly	
50 55 60	
cac ctc tcc ttt gta gac att tgc tat tct tcc aat gtt act cca aat	240
His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn	
65 70 75 80	
atg ctg cac aat ttc ctc tca gaa cag aag acc atc tcc tac gct gga	288
Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly	
85 90 95	
tgc ttc aca cag tgt ctt ctc ttc atc gcc ctg gtg atc act gag ttt	336
Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe	
100 105 110	
tac atc ctt gct tca atg gca ttg gat cgc tat gta gcc att tgc agc	384
Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	
cct ttg cat tac agt tcc agg atg tcc aag aac atc tgt gtc tgt ctg	432
Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu	
130 135 140	
gtc act atc cct tac atg tat ggg ttt ctt agt ggg ttc tct cag tca	480
Val Thr Ile Pro Tyr Met Tyr Gly Phe Leu Ser Gly Phe Ser Gln Ser	
145 150 155 160	
ctg cta acc ttt cac tta tcc ttc tgt ggc tcc ctt gaa atc aat cat	528
Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His	
165 170 175	
ttc tac tgc gct gat cct cct ctt atc atg ctg gcc tgc tct gac acc	576
Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr	
180 185 190	
cgt gtc aaa aag atg gca atg ttt gta gtt gca ggc ttt aat ctc tca	624
Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Asn Leu Ser	
195 200 205	
agc tct ctc ttc atc att ctt ctg tcc tat ctt ttc att ttt gca gcg	672
Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala	
210 215 220	
atc ttc agg atc cgt tct gct gaa ggc agg cac aaa gcc ttt tct acg	720

Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

tgt gct tcc cac ctg aca ata gtc act ttg ttt tat gga acc ctc ttc 768  
 Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe  
 245 250 255

tgc atg tac gta agg cct cca tca gag aag tct gta gag gag tcc aaa 816  
 Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys  
 260 265 270

ata act gca gtc ttt tat act ttt ttg agc cca atg ctg aac cca ttg 864  
 Ile Thr Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu  
 275 280 285

atc tat agc cta cgg aac aca gat gta atc ctt gcc atg caa caa atg 912  
 Ile Tyr Ser Leu Arg Asn Thr Asp Val Ile Leu Ala Met Gln Gln Met  
 290 295 300

att agg gga aaa tcc ttt cat aaa att gca gtt tag 948  
 Ile Arg Gly Lys Ser Phe His Lys Ile Ala Val  
 305 310 315

<210> 234  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 234

Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu  
 20 25 30

Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu  
 35 40 45

Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn  
 65 70 75 80

Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly  
 85 90 95

Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe  
 100 105 110

Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu  
 130 135 140

Val Thr Ile Pro Tyr Met Tyr Gly Phe Leu Ser Gly Phe Ser Gln Ser  
 145 150 155 160

Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His  
 165 170 175

Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr  
 180 185 190

Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Asn Leu Ser  
 195 200 205

Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala  
 210 215 220

Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe  
 245 250 255

Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys  
 260 265 270

Ile Thr Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Thr Asp Val Ile Leu Ala Met Gln Gln Met  
 290 295 300

Ile Arg Gly Lys Ser Phe His Lys Ile Ala Val  
 305 310 315

<210> 235  
 <211> 918  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (912)  
 <223>

352

tcc tcc cac ctg acc tct gtc act tta tac tat ggc tcc att ctc tac 768  
 Ser Ser His Leu Thr Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr  
                   245                                  250                                  255

atc tac gct ctc ccc aga tct agc tat tct ttt gat atg gac aaa ata 816  
 Ile Tyr Ala Leu Pro Arg Ser Ser Tyr Ser Phe Asp Met Asp Lys Ile  
                   260                                  265                                  270

gtt tct aca ttt tac act gtg gta ttc ccc atg ttg aat ctc atg atc 864  
 Val Ser Thr Phe Tyr Thr Val Val Phe Pro Met Leu Asn Leu Met Ile  
                   275                                  280                                  285

tac agc cta agg aat aag gat gtg aaa gag gct ctg aaa aaa ctt ctc 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu Leu  
                   290                                  295                                  300

ccataa 918

<210> 236  
 <211> 304  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 236

Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly Phe  
 1                  5                                  10                                  15

Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu Gly  
                   20                                  25                                  30

Val Tyr Ser Leu Thr Val Val Gly Asn Ser Thr Leu Ile Val Leu Ile  
                   35                                  40                                  45

Cys Asn Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Thr Gly Asn  
                   50                                  55                                  60

Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val Tyr Thr Pro Lys Ile  
 65                                  70                                  75                                  80

Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly Cys  
                   85                                  90                                  95

Leu Cys Gln Phe Phe Phe Ser Ala Gly Leu Ala Tyr Ser Glu Cys Tyr  
                   100                                  105                                  110

Leu Leu Ala Ala Val Ala Tyr Asp Arg Tyr Val Ala Ile Ser Lys Pro  
                   115                                  120                                  125

Leu Leu Tyr Ala Gln Ala Met Ser Ile Lys Leu Cys Ala Leu Leu Val  
                   130                                  135                                  140

Ala Val Ser Tyr Cys Gly Gly Phe Ile Asn Ser Ser Ile Ile Thr Lys  
145 150 155 160

Lys Thr Phe Ser Phe Asn Phe Cys Arg Glu Asn Ile Ile Asp Asp Phe  
165 170 175

Phe Cys Asp Leu Leu Pro Leu Val Glu Leu Ala Cys Gly Glu Lys Gly  
180 185 190

Gly Tyr Lys Ile Met Met Tyr Phe Leu Leu Ala Ser Asn Val Ile Cys  
195 200 205

Pro Ala Val Leu Ile Leu Ala Ser Tyr Leu Phe Ile Ile Thr Ser Val  
210 215 220

Leu Arg Ile Ser Ser Ser Lys Gly Tyr Leu Lys Ala Phe Ser Thr Cys  
225 230 235 240

Ser Ser His Leu Thr Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr  
245 250 255

Ile Tyr Ala Leu Pro Arg Ser Ser Tyr Ser Phe Asp Met Asp Lys Ile  
260 265 270

Val Ser Thr Phe Tyr Thr Val Val Phe Pro Met Leu Asn Leu Met Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu Leu  
290 295 300

<210> 237  
<211> 939  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(936)  
<223>

<400> 237  
atg gaa gca gga aac caa aca gga ttt tta gag ttt atc ctt ctc gga 48  
Met Glu Ala Gly Asn Gln Thr Gly Phe Leu Glu Phe Ile Leu Leu Gly  
1 5 10 15  
ctc tct gag gat cca gaa cta cag ccg ttc ata ttt ggg ctg ttc ctg 96  
Leu Ser Glu Asp Pro Glu Leu Gln Pro Phe Ile Phe Gly Leu Phe Leu  
20 25 30

tcc atg tac ctg gtg acg gtg ctg gga aac ctg ctc atc atc ctg gcc	144
Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala	
35 40 45	
atc agc tct gac tcc cac ctc cac acc ccc atg tac ttc ttc ctc tcc	192
Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
aac ctg tcc tgg gtt gac atc tgt ttc agc act tgc atc gtc ccc aag	240
Asn Leu Ser Trp Val Asp Ile Cys Phe Ser Thr Cys Ile Val Pro Lys	
65 70 75 80	
atg ctg gtg aac atc cag acc gag aac aaa gcc atc tcc tac atg gac	288
Met Leu Val Asn Ile Gln Thr Glu Asn Lys Ala Ile Ser Tyr Met Asp	
85 90 95	
tgc ctc aca cag gtc tat ttc tcc atg ttt ttt cct att ctg gac acg	336
Cys Leu Thr Gln Val Tyr Phe Ser Met Phe Phe Pro Ile Leu Asp Thr	
100 105 110	
cta ctc ctg acc gtg atg gcc tat gac cgg ttt gtg gct gtc tgc cac	384
Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Phe Val Ala Val Cys His	
115 120 125	
cct ctg cac tat atg atc atc atg aac ccc cac ctc tgt ggc ctc ctg	432
Pro Leu His Tyr Met Ile Ile Met Asn Pro His Leu Cys Gly Leu Leu	
130 135 140	
gtt ttt gtc acc tgg ctc att ggt gtc atg aca tcc ctc ctc cat att	480
Val Phe Val Thr Trp Leu Ile Gly Val Met Thr Ser Leu Leu His Ile	
145 150 155 160	
tct ctg atg atg cat cta atc ttc tgt aaa gat ttt gaa att cca cat	528
Ser Leu Met Met His Leu Ile Phe Cys Lys Asp Phe Glu Ile Pro His	
165 170 175	
ttt ttc tgc gaa ctg acg tac atc ctc cag ctg gcc tgc tct gat acc	576
Phe Phe Cys Glu Leu Thr Tyr Ile Leu Gln Leu Ala Cys Ser Asp Thr	
180 185 190	
ttc ctg aac agc acg ttg ata tac ttt atg acg ggt gtg ctg ggc gtt	624
Phe Leu Asn Ser Thr Leu Ile Tyr Phe Met Thr Gly Val Leu Gly Val	
195 200 205	
ttt ccc ctc ctt ggg atc att ttc tct tat tca cga att gct tca tcc	672
Phe Pro Leu Leu Gly Ile Ile Phe Ser Tyr Ser Arg Ile Ala Ser Ser	
210 215 220	
ata agg aag atg tcc tca tct ggg gga aaa caa aaa gca ctt tcc acc	720
Ile Arg Lys Met Ser Ser Ser Gly Gly Lys Gln Lys Ala Leu Ser Thr	
225 230 235 240	
tgt ggg tct cac ctc tcc gtc gtt tct tta ttt tat ggg aca ggc att	768
Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Gly Ile	
245 250 255	
ggg gtc cac ttc act tct gcg gtg act cac tct tcc cag aaa atc tcc	816
Gly Val His Phe Thr Ser Ala Val Thr His Ser Ser Gln Lys Ile Ser	
260 265 270	
gtg gcc tcg gtg atg tac act gtg gtc acc ccc atg ttg aac ccc ttc	864

Val Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285

atc tac agc ctg agg aac aag gat gtg aag gga gcc ctg ggg agt ctc 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Gly Ser Leu  
 290 295 300

ctc agc agg gca gcc tct tgt ttg tga 939  
 Leu Ser Arg Ala Ala Ser Cys Leu  
 305 310

<210> 238  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 238

Met Glu Ala Gly Asn Gln Thr Gly Phe Leu Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Leu Ser Glu Asp Pro Glu Leu Gln Pro Phe Ile Phe Gly Leu Phe Leu  
 20 25 30

Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ser Trp Val Asp Ile Cys Phe Ser Thr Cys Ile Val Pro Lys  
 65 70 75 80

Met Leu Val Asn Ile Gln Thr Glu Asn Lys Ala Ile Ser Tyr Met Asp  
 85 90 95

Cys Leu Thr Gln Val Tyr Phe Ser Met Phe Phe Pro Ile Leu Asp Thr  
 100 105 110

Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Phe Val Ala Val Cys His  
 115 120 125

Pro Leu His Tyr Met Ile Ile Met Asn Pro His Leu Cys Gly Leu Leu  
 130 135 140

Val Phe Val Thr Trp Leu Ile Gly Val Met Thr Ser Leu Leu His Ile  
 145 150 155 160

Ser Leu Met Met His Leu Ile Phe Cys Lys Asp Phe Glu Ile Pro His  
 165 170 175



Phe Phe Cys Glu Leu Thr Tyr Ile Leu Gln Leu Ala Cys Ser Asp Thr  
 180 185 190

Phe Leu Asn Ser Thr Leu Ile Tyr Phe Met Thr Gly Val Leu Gly Val  
 195 200 205

Phe Pro Leu Leu Gly Ile Ile Phe Ser Tyr Ser Arg Ile Ala Ser Ser  
 210 215 220

Ile Arg Lys Met Ser Ser Ser Gly Gly Lys Gln Lys Ala Leu Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Gly Ile  
 245 250 255

Gly Val His Phe Thr Ser Ala Val Thr His Ser Ser Gln Lys Ile Ser  
 260 265 270

Val Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Gly Ser Leu  
 290 295 300

Leu Ser Arg Ala Ala Ser Cys Leu  
 305 310

<210> 239  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (936)  
 <223>

<400> 239  
 atg aaa gca gga aac ttc tca gac act cca gaa ttc ttt ctc ttg gga 48  
 Met Lys Ala Gly Asn Phe Ser Asp Thr Pro Glu Phe Phe Leu Leu Gly  
 1 5 10 15

ttg tca ggg gat ccg gag ctg cag ccc atc ctc ttc atg ctg ttc ctg 96  
 Leu Ser Gly Asp Pro Glu Leu Gln Pro Ile Leu Phe Met Leu Phe Leu  
 20 25 30

tcc atg tac ctg gcc aca atg ctg ggg aac ctg ctc atc atc ctg gcc 144  
 Ser Met Tyr Leu Ala Thr Met Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

gtc aac tct gac tcc cac ctc cac acc ccc atg tac ttc ctc ctc tct	192
Val Asn Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Ser	
50 55 60	
atc ctg tcc ttg gtc gac atc tgt ttc acc tcc acc acg atg ccc aag	240
Ile Leu Ser Leu Val Asp Ile Cys Phe Thr Ser Thr Thr Met Pro Lys	
65 70 75 80	
atg ctg gtg aac atc cag gca cag gct caa tcc atc aat tac aca ggc	288
Met Leu Val Asn Ile Gln Ala Gln Ala Gln Ser Ile Asn Tyr Thr Gly	
85 90 95	
tgc ctc acc caa atc tgc ttt gtc ctg gtt ttt gtt gga ttg gaa aat	336
Cys Leu Thr Gln Ile Cys Phe Val Leu Val Phe Val Gly Leu Glu Asn	
100 105 110	
gga att ctg gtc atg atg gcc tat gat cga ttt gtg gcc atc tgt cac	384
Gly Ile Leu Val Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His	
115 120 125	
cca ctg agg tac aat gtc atc atg aac ccc aaa ctc tgt ggg ctg ctg	432
Pro Leu Arg Tyr Asn Val Ile Met Asn Pro Lys Leu Cys Gly Leu Leu	
130 135 140	
ctt ctg ctg tcc ttc atc gtt agt gtc ctg gat gct ctg ctg cac acg	480
Leu Leu Leu Ser Phe Ile Val Ser Val Leu Asp Ala Leu Leu His Thr	
145 150 155 160	
ttg atg gtg cta cag ctg acc ttc tgc ata gac ctg gaa att ccc cac	528
Leu Met Val Leu Gln Leu Thr Phe Cys Ile Asp Leu Glu Ile Pro His	
165 170 175	
ttt ttc tgt gaa cta gct cat att ctc aag ctc gcc tgt tct gat gtc	576
Phe Phe Cys Glu Leu Ala His Ile Leu Lys Leu Ala Cys Ser Asp Val	
180 185 190	
ctc atc aat aac atc ctg gtg tat ttg gtg acc agc ctg tta ggt gtt	624
Leu Ile Asn Asn Ile Leu Val Tyr Leu Val Thr Ser Leu Leu Gly Val	
195 200 205	
gtt cct ctc tct ggg atc att ttc tct tac aca cga att gtc tcc tct	672
Val Pro Leu Ser Gly Ile Ile Phe Ser Tyr Thr Arg Ile Val Ser Ser	
210 215 220	
gtc atg aaa att cca tca gct ggt gga aag tat aaa gct ttt tcc atc	720
Val Met Lys Ile Pro Ser Ala Gly Gly Lys Tyr Lys Ala Phe Ser Ile	
225 230 235 240	
tgc ggg tca cat tta atc gtt gtt tcc ttg ttt tat gga aca ggg ttt	768
Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Gly Phe	
245 250 255	
ggg gtg tac ctt agt tct ggg gct acc cac tcc tcc agg aag ggt gca	816
Gly Val Tyr Leu Ser Ser Gly Ala Thr His Ser Ser Arg Lys Gly Ala	
260 265 270	
ata gca tca gtg atg tat acc gtg gtc acc ccc atg ctg aac cca ctc	864
Ile Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Leu	
275 280 285	

att tac agc ctg aga aac aag gac atg ttg aag gct ttg agg aaa cta 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Met Leu Lys Ala Leu Arg Lys Leu  
 290 295 300

ata tct agg ata cca tct ttc cat tga 939  
 Ile Ser Arg Ile Pro Ser Phe His  
 305 310

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<400> 240

Met Lys Ala Gly Asn Phe Ser Asp Thr Pro Glu Phe Phe Leu Leu Gly  
 1 5 10 15

Leu Ser Gly Asp Pro Glu Leu Gln Pro Ile Leu Phe Met Leu Phe Leu  
 20 25 30

Ser Met Tyr Leu Ala Thr Met Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

Val Asn Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

Ile Leu Ser Leu Val Asp Ile Cys Phe Thr Ser Thr Thr Met Pro Lys  
 65 70 75 80

Met Leu Val Asn Ile Gln Ala Gln Ala Gln Ser Ile Asn Tyr Thr Gly  
 85 90 95

Cys Leu Thr Gln Ile Cys Phe Val Leu Val Phe Val Gly Leu Glu Asn  
 100 105 110

Gly Ile Leu Val Met Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Asn Val Ile Met Asn Pro Lys Leu Cys Gly Leu Leu  
 130 135 140

Leu Leu Leu Ser Phe Ile Val Ser Val Leu Asp Ala Leu Leu His Thr  
 145 150 155 160

Leu Met Val Leu Gln Leu Thr Phe Cys Ile Asp Leu Glu Ile Pro His  
 165 170 175

Phe Phe Cys Glu Leu Ala His Ile Leu Lys Leu Ala Cys Ser Asp Val

180 185 190  
 Leu Ile Asn Asn Ile Leu Val Tyr Leu Val Thr Ser Leu Leu Gly Val  
 195 200 205  
 Val Pro Leu Ser Gly Ile Ile Phe Ser Tyr Thr Arg Ile Val Ser Ser  
 210 215 220  
 Val Met Lys Ile Pro Ser Ala Gly Gly Lys Tyr Lys Ala Phe Ser Ile  
 225 230 235 240  
 Cys Gly Ser His Leu Ile Val Val Ser Leu Phe Tyr Gly Thr Gly Phe  
 245 250 255  
 Gly Val Tyr Leu Ser Ser Gly Ala Thr His Ser Ser Arg Lys Gly Ala  
 260 265 270  
 Ile Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Met Leu Lys Ala Leu Arg Lys Leu  
 290 295 300  
 Ile Ser Arg Ile Pro Ser Phe His  
 305 310

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 1 5 10 15  
 ctc tca gat gat cct gaa ctg cag ccc gtc ctc ttt ggg ctg ttc ctg 96  
 Leu Ser Asp Asp Pro Glu Leu Gln Pro Val Leu Phe Gly Leu Phe Leu  
 20 25 30  
 tcc atg tac ctg gtc acg gtg ctg ggg aac ctg ctc atc att ctg gcc 144  
 Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45  
 gtc agc tct gac tcc cac ctc cac acc ccc atg tac ttc ttc ctc tcc 192  
 Val Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser

50	55	60	
aac ctg tcc ttt gtt gac atc tgt ttc atc tcc acc aca gtc ccc aag			240
Asn Leu Ser Phe Val Asp Ile Cys Phe Ile Ser Thr Thr Val Pro Lys			
65	70	75	80
atg cta gtg agc atc cag gca cgg agc aaa gac atc tcc tac atg ggg			288
Met Leu Val Ser Ile Gln Ala Arg Ser Lys Asp Ile Ser Tyr Met Gly			
	85	90	95
tgc ctc act cag gtg tat ttt tta atg atg ttt gct gga atg gat act			336
Cys Leu Thr Gln Val Tyr Phe Leu Met Met Phe Ala Gly Met Asp Thr			
	100	105	110
ttc cta ctg gcc gtg atg gcc tat gac cgg ttt gtg gcc atc tgc cac			384
Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His			
	115	120	125
cca ctg cac tac acg gtc atc atg aac ccc tgc ctc tgt ggc ctc ctg			432
Pro Leu His Tyr Thr Val Ile Met Asn Pro Cys Leu Cys Gly Leu Leu			
	130	135	140
gtt ctg gca tct tgg ttc atc att ttc tgg ttc tcc ctg gtt cat att			480
Val Leu Ala Ser Trp Phe Ile Ile Phe Trp Phe Ser Leu Val His Ile			
	145	150	155
cta ctg atg aag agg ttg acc ttc tcc aca ggc act gag att ccg cat			528
Leu Leu Met Lys Arg Leu Thr Phe Ser Thr Gly Thr Glu Ile Pro His			
	165	170	175
ttc ttc tgt gaa ccg gct cag gtc ctc aag gtg gcc tgc tct aac acc			576
Phe Phe Cys Glu Pro Ala Gln Val Leu Lys Val Ala Cys Ser Asn Thr			
	180	185	190
ctc ctc aat aac att gtc ttg tat gtg gcc acg gca ctg ctg ggt gtg			624
Leu Leu Asn Asn Ile Val Leu Tyr Val Ala Thr Ala Leu Leu Gly Val			
	195	200	205
ttt cct gta gct ggg atc ctc ttc tcc tac tct cag att gtc tcc tcc			672
Phe Pro Val Ala Gly Ile Leu Phe Ser Tyr Ser Gln Ile Val Ser Ser			
	210	215	220
tta atg gga atg tcc tcc acc aag ggc aag tac aaa gcc ttt tcc acc			720
Leu Met Gly Met Ser Ser Thr Lys Gly Lys Tyr Lys Ala Phe Ser Thr			
	225	230	235
tgt gga tct cac ctc tgt gtg gtc tcc ttg ttc tat gga aca gga ctt			768
Cys Gly Ser His Leu Cys Val Val Ser Leu Phe Tyr Gly Thr Gly Leu			
	245	250	255
ggg gtc tat ctg agt tct gct gtg acc cat tct tcc cag agc agc tcc			816
Gly Val Tyr Leu Ser Ser Ala Val Thr His Ser Ser Gln Ser Ser Ser			
	260	265	270
acc gcc tca gtg atg tac gcc atg gtc acc ccc atg ctg aac ccc ttc			864
Thr Ala Ser Val Met Tyr Ala Met Val Thr Pro Met Leu Asn Pro Phe			
	275	280	285
atc tac agc ctg agg aac aag gat gtg aag ggg gcc ctg gaa aga ctc			912
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Glu Arg Leu			
	290	295	300

ctc agc agg gcc gac tct tgt cca tga  
 Leu Ser Arg Ala Asp Ser Cys Pro  
 305 310

939

<210> 242  
 <211> 312  
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<400> 242

Met Glu Ala Glu Asn Leu Thr Glu Leu Ser Lys Phe Leu Leu Leu Gly  
 1 5 10 15

Leu Ser Asp Asp Pro Glu Leu Gln Pro Val Leu Phe Gly Leu Phe Leu  
 20 25 30

Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala  
 35 40 45

Val Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ser Phe Val Asp Ile Cys Phe Ile Ser Thr Thr Val Pro Lys  
 65 70 75 80

Met Leu Val Ser Ile Gln Ala Arg Ser Lys Asp Ile Ser Tyr Met Gly  
 85 90 95

Cys Leu Thr Gln Val Tyr Phe Leu Met Met Phe Ala Gly Met Asp Thr  
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His  
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Asn Pro Cys Leu Cys Gly Leu Leu  
 130 135 140

Val Leu Ala Ser Trp Phe Ile Ile Phe Trp Phe Ser Leu Val His Ile  
 145 150 155 160

Leu Leu Met Lys Arg Leu Thr Phe Ser Thr Gly Thr Glu Ile Pro His  
 165 170 175

Phe Phe Cys Glu Pro Ala Gln Val Leu Lys Val Ala Cys Ser Asn Thr  
 180 185 190

Leu Leu Asn Asn Ile Val Leu Tyr Val Ala Thr Ala Leu Leu Gly Val  
 195 200 205

Phe Pro Val Ala Gly Ile Leu Phe Ser Tyr Ser Gln Ile Val Ser Ser  
 210 215 220

Leu Met Gly Met Ser Ser Thr Lys Gly Lys Tyr Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Cys Val Val Ser Leu Phe Tyr Gly Thr Gly Leu  
 245 250 255

Gly Val Tyr Leu Ser Ser Ala Val Thr His Ser Ser Gln Ser Ser Ser  
 260 265 270

Thr Ala Ser Val Met Tyr Ala Met Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Glu Arg Leu  
 290 295 300

Leu Ser Arg Ala Asp Ser Cys Pro  
 305 310

<210> 243  
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 <212> DNA  
 <213> Homo Sapiens

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 Met Pro Met Gln Leu Leu Leu Thr Asp Phe Ile Ile Phe Ser Ile Arg  
 1 5 10 15  
 ttc atc atc aac agc atg gaa gcg aga aac caa aca gct att tca aaa 96  
 Phe Ile Ile Asn Ser Met Glu Ala Arg Asn Gln Thr Ala Ile Ser Lys  
 20 25 30  
 ttc ctt ctc ctg gga ctg ata gag gat ccg gaa ctg cag ccc gtc ctt 144  
 Phe Leu Leu Leu Gly Leu Ile Glu Asp Pro Glu Leu Gln Pro Val Leu  
 35 40 45  
 ttc agc ctg ttc ctg tcc atg tac ttg gtc acc atc ctg ggg aac ctg 192  
 Phe Ser Leu Phe Leu Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu  
 50 55 60  
 ctc atc ctc ttg gct gtc atc tct gac tct cac ctc cac acc ccc atg 240

Leu 65	Ile	Leu	Leu	Ala	Val 70	Ile	Ser	Asp	Ser	His 75	Leu	His	Thr	Pro	Met 80	
tac	ttc	ttc	ctc	tcc	aat	ctc	tcc	ttt	ttg	gac	att	tgt	tta	agc	aca	288
Tyr	Phe	Phe	Leu	Ser 85	Asn	Leu	Ser	Phe	Leu 90	Asp	Ile	Cys	Leu	Ser 95	Thr	
acc	acg	atc	cca	aag	atg	ctg	gtg	aac	atc	caa	gct	cag	aat	cgg	agc	336
Thr	Thr	Ile	Pro 100	Lys	Met	Leu	Val	Asn 105	Ile	Gln	Ala	Gln	Asn 110	Arg	Ser	
atc	acg	tac	tca	ggc	tgc	ctc	acc	cag	atc	tgc	ttt	gtc	ttg	ttt	ttt	384
Ile	Thr	Tyr 115	Ser	Gly	Cys	Leu	Thr 120	Gln	Ile	Cys	Phe	Val 125	Leu	Phe	Phe	
gct	ggc	ttg	gaa	aat	tgt	ctc	ctt	gca	gca	atg	gcc	tat	gac	cgc	tat	432
Ala	Gly	Leu	Glu	Asn	Cys	Leu	Leu 135	Ala	Ala	Met	Ala 140	Tyr	Asp	Arg	Tyr	
gtg	gcc	att	tgt	cac	ccc	ctt	aga	tac	aca	gtc	atc	atg	aac	ccc	cgc	480
Val	Ala	Ile	Cys	His	Pro 150	Leu	Arg	Tyr	Thr	Val 155	Ile	Met	Asn 160	Pro	Arg	
ctc	tgt	ggc	ctg	ctg	att	ctt	ctc	tct	ctg	ttg	act	agt	gtt	gtg	aat	528
Leu	Cys	Gly	Leu	Leu 165	Ile	Leu	Leu	Ser	Leu 170	Leu	Thr	Ser	Val 175	Val	Asn	
gcc	ctt	ctt	ctc	agc	ctg	atg	gtg	ttg	agg	ctg	tcc	ttc	tgc	aca	gac	576
Ala	Leu	Leu	Leu 180	Ser	Leu	Met	Val 185	Leu	Arg	Leu	Ser	Phe	Cys 190	Thr	Asp	
ctg	gaa	atc	ccg	ctc	ttc	ttc	tgt	gaa	ctg	gct	cag	gtc	atc	caa	ctc	624
Leu	Glu	Ile	Pro	Leu	Phe	Phe	Cys 200	Glu	Leu	Ala	Gln	Val 205	Ile	Gln	Leu	
acc	tgt	tca	gac	acc	ctc	atc	aat	aac	atc	ctg	ata	tat	ttt	gca	gct	672
Thr	Cys	Ser	Asp	Thr	Leu 215	Ile	Asn	Asn	Ile	Leu 220	Ile	Tyr	Phe	Ala	Ala	
tgc	ata	ttt	ggt	ggt	gtt	cct	ctg	tct	gga	atc	att	ttg	tct	tac	act	720
Cys	Ile	Phe	Gly	Gly	Val 230	Pro	Leu	Ser	Gly	Ile 235	Ile	Leu	Ser	Tyr	Thr 240	
cag	atc	acc	tcc	tgt	gtt	ttg	aga	atg	cca	tca	gca	agt	gga	aag	cac	768
Gln	Ile	Thr	Ser 245	Val	Leu	Arg	Met	Pro 250	Ser	Ala	Ser	Gly	Lys 255	His		
aaa	gca	gtt	tcc	acc	tgt	ggg	tct	cac	ctc	tcc	att	gtt	ctc	ttg	ttc	816
Lys	Ala	Val	Ser 260	Thr	Cys	Gly	Ser	His 265	Leu	Ser	Ile	Val 270	Leu	Leu	Phe	
tat	ggg	gca	ggt	ttg	ggg	gtg	tac	att	agt	tct	gtg	gtt	act	gac	tca	864
Tyr	Gly	Ala	Gly	Leu	Gly	Val	Tyr 280	Ile	Ser	Ser	Val	Val 285	Thr	Asp	Ser	
cct	agg	aag	act	gca	gtg	gct	tca	gtg	atg	tat	tct	gtg	ttc	cct	caa	912
Pro	Arg	Lys	Thr 290	Ala	Val	Ala 295	Ser	Val	Met	Tyr	Ser 300	Val	Phe	Pro	Gln	
atg	gtg	aac	ccc	ttt	atc	tat	agt	ctg	agg	aat	aag	gac	atg	aaa	gga	960
Met	Val	Asn	Pro	Phe	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Met	Lys	Gly	



305                                      310                                      315                                      320  
 acc ttg agg aag ttc ata ggg agg ata cct tct ctt ctg tgg tgt gcc      1008  
 Thr Leu Arg Lys Phe Ile Gly Arg Ile Pro Ser Leu Leu Trp Cys Ala  
    325                                      330                                      335  
  
 att tgc ttt gga ttc agg ttt cta gag taa      1038  
 Ile Cys Phe Gly Phe Arg Phe Leu Glu  
    340                                      345  
  
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 1                                      5                                      10                                      15  
  
 Phe Ile Ile Asn Ser Met Glu Ala Arg Asn Gln Thr Ala Ile Ser Lys  
    20                                      25                                      30  
  
 Phe Leu Leu Leu Gly Leu Ile Glu Asp Pro Glu Leu Gln Pro Val Leu  
    35                                      40                                      45  
  
 Phe Ser Leu Phe Leu Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu  
    50                                      55                                      60  
  
 Leu Ile Leu Leu Ala Val Ile Ser Asp Ser His Leu His Thr Pro Met  
 65                                      70                                      75                                      80  
  
 Tyr Phe Phe Leu Ser Asn Leu Ser Phe Leu Asp Ile Cys Leu Ser Thr  
    85                                      90                                      95  
  
 Thr Thr Ile Pro Lys Met Leu Val Asn Ile Gln Ala Gln Asn Arg Ser  
    100                                      105                                      110  
  
 Ile Thr Tyr Ser Gly Cys Leu Thr Gln Ile Cys Phe Val Leu Phe Phe  
    115                                      120                                      125  
  
 Ala Gly Leu Glu Asn Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr  
    130                                      135                                      140  
  
 Val Ala Ile Cys His Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg  
 145                                      150                                      155                                      160  
  
 Leu Cys Gly Leu Leu Ile Leu Leu Ser Leu Leu Thr Ser Val Val Asn  
    165                                      170                                      175

Ala Leu Leu Leu Ser Leu Met Val Leu Arg Leu Ser Phe Cys Thr Asp  
180 185 190

Leu Glu Ile Pro Leu Phe Phe Cys Glu Leu Ala Gln Val Ile Gln Leu  
195 200 205

Thr Cys Ser Asp Thr Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ala  
210 215 220

Cys Ile Phe Gly Gly Val Pro Leu Ser Gly Ile Ile Leu Ser Tyr Thr  
225 230 235 240

Gln Ile Thr Ser Cys Val Leu Arg Met Pro Ser Ala Ser Gly Lys His  
245 250 255

Lys Ala Val Ser Thr Cys Gly Ser His Leu Ser Ile Val Leu Leu Phe  
260 265 270

Tyr Gly Ala Gly Leu Gly Val Tyr Ile Ser Ser Val Val Thr Asp Ser  
275 280 285

Pro Arg Lys Thr Ala Val Ala Ser Val Met Tyr Ser Val Phe Pro Gln  
290 295 300

Met Val Asn Pro Phe Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Gly  
305 310 315 320

Thr Leu Arg Lys Phe Ile Gly Arg Ile Pro Ser Leu Leu Trp Cys Ala  
325 330 335

Ile Cys Phe Gly Phe Arg Phe Leu Glu  
340 345

<210> 245  
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Met Gly Pro Arg Asn Gln Thr Ala Val Ser Glu Phe Leu Leu Met Lys  
1 5 10 15

48

gtg aca gag gac cca gaa ctg aag tta atc cct ttc agc ctg ttc ctg Val Thr Glu Asp Pro Glu Leu Lys Leu Ile Pro Phe Ser Leu Phe Leu 20 25 30	96
tcc atg tac ctg gtc acc atc ctg ggg aac ctg ctc att ctc ctg gct Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu Leu Ile Leu Leu Ala 35 40 45	144
gtc atc tct gac tcc cac ctg cac acc ccc atg tac ttc ctt ctc ttt Val Ile Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Phe 50 55 60	192
aat ctc tcc ttt act gac atc tgt tta acc aca acc aca gtc cca aag Asn Leu Ser Phe Thr Asp Ile Cys Leu Thr Thr Thr Thr Val Pro Lys 65 70 75 80	240
atc cta gtg aac atc caa gct cag aat cag agt atc act tac aca ggc Ile Leu Val Asn Ile Gln Ala Gln Asn Gln Ser Ile Thr Tyr Thr Gly 85 90 95	288
tgc ctc acc cag atc tgt ctt gtc ttg gtt ttt gct ggc ttg gaa agt Cys Leu Thr Gln Ile Cys Leu Val Leu Val Phe Ala Gly Leu Glu Ser 100 105 110	336
tgc ttt ctt gca gtc atg gcc tac gac cgc tat gtg gcc att tgc cac Cys Phe Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His 115 120 125	384
cca ctg agg tac aca gtc ctc atg aat gtc cat ttc tgg ggc ttg ctg Pro Leu Arg Tyr Thr Val Leu Met Asn Val His Phe Trp Gly Leu Leu 130 135 140	432
att ctt ctc tcc atg ttc atg agc act atg gat gcc ctg gtt cag agt Ile Leu Leu Ser Met Phe Met Ser Thr Met Asp Ala Leu Val Gln Ser 145 150 155 160	480
ctg atg gta ttg cag ctg tcc ttc tgc aaa aac gtt gaa atc cct ttg Leu Met Val Leu Gln Leu Ser Phe Cys Lys Asn Val Glu Ile Pro Leu 165 170 175	528
ttc ttc tgt gaa gtc gtt cag gtc atc aag ctc gcc tgt tct gac acc Phe Phe Cys Glu Val Val Gln Val Ile Lys Leu Ala Cys Ser Asp Thr 180 185 190	576
ctc atc aac aac atc ctc ata tat ttt gca agt agt gta ttt ggt gca Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ser Ser Val Phe Gly Ala 195 200 205	624
att cct ctc tct gga ata att ttc tct tat tct caa ata gtc acc tct Ile Pro Leu Ser Gly Ile Ile Phe Ser Tyr Ser Gln Ile Val Thr Ser 210 215 220	672
gtt ctg aga atg cca tca gca aga gga aag tat aaa gcg ttt tcc acc Val Leu Arg Met Pro Ser Ala Arg Gly Lys Tyr Lys Ala Phe Ser Thr 225 230 235 240	720
tgt ggc tgt cac ctc tct gtt ttt tcc ttg ttc tat ggg aca gct ttt Cys Gly Cys His Leu Ser Val Phe Ser Leu Phe Tyr Gly Thr Ala Phe 245 250 255	768
ggg gtg tac att agt tct gct gtt gct gag tct tcc cga att act gct	816

Gly Val Tyr Ile Ser Ser Ala Val Ala Glu Ser Ser Arg Ile Thr Ala  
 260 265 270

gtg gct tca gtg atg tac act gtg gtc cct caa atg atg aac ccc ttc 864  
 Val Ala Ser Val Met Tyr Thr Val Val Pro Gln Met Met Asn Pro Phe  
 275 280 285

atc tac agc ctg aga aat aag gag atg aag aaa gct ttg agg aaa ctt 912  
 Ile Tyr Ser Leu Arg Asn Lys Glu Met Lys Lys Ala Leu Arg Lys Leu  
 290 295 300

att ggt agg ctg ttt cct ttt tag 936  
 Ile Gly Arg Leu Phe Pro Phe  
 305 310

<210> 246  
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Met Gly Pro Arg Asn Gln Thr Ala Val Ser Glu Phe Leu Leu Met Lys  
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Val Thr Glu Asp Pro Glu Leu Lys Leu Ile Pro Phe Ser Leu Phe Leu  
 20 25 30

Ser Met Tyr Leu Val Thr Ile Leu Gly Asn Leu Leu Ile Leu Leu Ala  
 35 40 45

Val Ile Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Leu Leu Phe  
 50 55 60

Asn Leu Ser Phe Thr Asp Ile Cys Leu Thr Thr Thr Thr Val Pro Lys  
 65 70 75 80

Ile Leu Val Asn Ile Gln Ala Gln Asn Gln Ser Ile Thr Tyr Thr Gly  
 85 90 95

Cys Leu Thr Gln Ile Cys Leu Val Leu Val Phe Ala Gly Leu Glu Ser  
 100 105 110

Cys Phe Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Thr Val Leu Met Asn Val His Phe Trp Gly Leu Leu  
 130 135 140

Ile Leu Leu Ser Met Phe Met Ser Thr Met Asp Ala Leu Val Gln Ser  
 145 150 155 160

Leu Met Val Leu Gln Leu Ser Phe Cys Lys Asn Val Glu Ile Pro Leu  
165 170 175

Phe Phe Cys Glu Val Val Gln Val Ile Lys Leu Ala Cys Ser Asp Thr  
180 185 190

Leu Ile Asn Asn Ile Leu Ile Tyr Phe Ala Ser Ser Val Phe Gly Ala  
195 200 205

Ile Pro Leu Ser Gly Ile Ile Phe Ser Tyr Ser Gln Ile Val Thr Ser  
210 215 220

Val Leu Arg Met Pro Ser Ala Arg Gly Lys Tyr Lys Ala Phe Ser Thr  
225 230 235 240

Cys Gly Cys His Leu Ser Val Phe Ser Leu Phe Tyr Gly Thr Ala Phe  
245 250 255

Gly Val Tyr Ile Ser Ser Ala Val Ala Glu Ser Ser Arg Ile Thr Ala  
260 265 270

Val Ala Ser Val Met Tyr Thr Val Val Pro Gln Met Met Asn Pro Phe  
275 280 285

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290 295 300

Ile Gly Arg Leu Phe Pro Phe  
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cta tca gat gtc cct gag ttg aga gtc tgc ctc ttc ctg ctg ttc ctt 96  
Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu  
20 25 30

ctc atc tat gga gtc acg ttg tta gcc aat ctg ggc atg act gca ctg	144
Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Thr Ala Leu	
35 40 45	
att cag gtc agc tct cgg ctc cac acc ccc gtg tac ttt ttc ctc agc	192
Ile Gln Val Ser Ser Arg Leu His Thr Pro Val Tyr Phe Phe Leu Ser	
50 55 60	
cac ttg tcc ttt gta gat ttc tgc tac tcc tca ata att gtg cca aag	240
His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ile Ile Val Pro Lys	
65 70 75 80	
atg ttg gct aat atc ttt aac aag gac aaa gcc atc tcc ttc cta ggg	288
Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly	
85 90 95	
tgc atg gtg caa ttc tac ttg ttt tgc aca tgt gga gtc act gag gtc	336
Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Gly Val Thr Glu Val	
100 105 110	
ttc ctg ctg gcc gtg atg gcc tat gac cgc ttt gtg gcc atc tgt aac	384
Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn	
115 120 125	
ccc ctg ctg tac atg gtg acc atg tct caa aag ctg cgt gtg gag ctg	432
Pro Leu Leu Tyr Met Val Thr Met Ser Gln Lys Leu Arg Val Glu Leu	
130 135 140	
acc tct tgc tgc tac ttc tgt ggg acg gtg tgt tct ctg att cac tcg	480
Thr Ser Cys Cys Tyr Phe Cys Gly Thr Val Cys Ser Leu Ile His Ser	
145 150 155 160	
tcc tta gct ctt agg atc ctc ttc tat aga tct aat gtg att aac cac	528
Ser Leu Ala Leu Arg Ile Leu Phe Tyr Arg Ser Asn Val Ile Asn His	
165 170 175	
ttc ttc tgt gat cta ccc cct ctc cta agt ctt gct tgc tct gat gtc	576
Phe Phe Cys Asp Leu Pro Pro Leu Leu Ser Leu Ala Cys Ser Asp Val	
180 185 190	
act gtg aat gag aca ctg ctg ttc ctg gtg gcc act ttg aat gag agt	624
Thr Val Asn Glu Thr Leu Leu Phe Leu Val Ala Thr Leu Asn Glu Ser	
195 200 205	
gtt acc atc atg atc atc ctc acc tcc tac ctg cta att ctc acc act	672
Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Leu Ile Leu Thr Thr	
210 215 220	
atc ctg aag ata cac tct gca gag agc agg cac aaa gct ttc tcc acc	720
Ile Leu Lys Ile His Ser Ala Glu Ser Arg His Lys Ala Phe Ser Thr	
225 230 235 240	
tgt gcc tcc cac ctc aca gcc atc act gtc tcc cat gga aca atc ctt	768
Cys Ala Ser His Leu Thr Ala Ile Thr Val Ser His Gly Thr Ile Leu	
245 250 255	
tac att tat tgc agg ccg agt tca ggc aac agt gga gat gtt gac aaa	816
Tyr Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Val Asp Lys	
260 265 270	

gtg gcc acc gtg ttc tac aca gtt gtg att ccc atg ctg aac ccc ctg 864  
 Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

atc tac agc ctg aga aat aag gat gtg aac aaa gct ctc aga aaa gtg 912  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Asn Lys Ala Leu Arg Lys Val  
 290 295 300

atg ggc tcc aaa att cac tcc tag 936  
 Met Gly Ser Lys Ile His Ser  
 305 310

<210> 248  
 <211> 311  
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 <213> Homo Sapiens

<400> 248

Met Gly Lys Glu Asn Cys Thr Thr Val Ala Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Leu Ser Asp Val Pro Glu Leu Arg Val Cys Leu Phe Leu Leu Phe Leu  
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Leu Ile Tyr Gly Val Thr Leu Leu Ala Asn Leu Gly Met Thr Ala Leu  
 35 40 45

Ile Gln Val Ser Ser Arg Leu His Thr Pro Val Tyr Phe Phe Leu Ser  
 50 55 60

His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Val Pro Lys  
 65 70 75 80

Met Leu Ala Asn Ile Phe Asn Lys Asp Lys Ala Ile Ser Phe Leu Gly  
 85 90 95

Cys Met Val Gln Phe Tyr Leu Phe Cys Thr Cys Gly Val Thr Glu Val  
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn  
 115 120 125

Pro Leu Leu Tyr Met Val Thr Met Ser Gln Lys Leu Arg Val Glu Leu  
 130 135 140

Thr Ser Cys Cys Tyr Phe Cys Gly Thr Val Cys Ser Leu Ile His Ser  
 145 150 155 160

Ser Leu Ala Leu Arg Ile Leu Phe Tyr Arg Ser Asn Val Ile Asn His

165 170 175  
 Phe Phe Cys Asp Leu Pro Pro Leu Leu Ser Leu Ala Cys Ser Asp Val  
 180 185 190  
 Thr Val Asn Glu Thr Leu Leu Phe Leu Val Ala Thr Leu Asn Glu Ser  
 195 200 205  
 Val Thr Ile Met Ile Ile Leu Thr Ser Tyr Leu Leu Ile Leu Thr Thr  
 210 215 220  
 Ile Leu Lys Ile His Ser Ala Glu Ser Arg His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ala Ser His Leu Thr Ala Ile Thr Val Ser His Gly Thr Ile Leu  
 245 250 255  
 Tyr Ile Tyr Cys Arg Pro Ser Ser Gly Asn Ser Gly Asp Val Asp Lys  
 260 265 270  
 Val Ala Thr Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Asn Lys Ala Leu Arg Lys Val  
 290 295 300  
 Met Gly Ser Lys Ile His Ser  
 305 310

<210> 249  
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<220>  
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<400> 249  
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 Met Leu Leu Thr Asp Arg Asn Thr Ser Gly Thr Thr Phe Thr Leu Leu  
 1 5 10 15  
 ggc ttc tca gat tac cca gaa ctg caa gtc cca ctc ttc ctg gtt ttt 96  
 Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe  
 20 25 30  
 ctg gcc atc tac aat gtc act gtg cta ggg aat att ggg ttg att gtg 144  
 Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val



35	40	45	
atc atc aaa atc aac ccc aaa ctg cat acc ccc atg tac ttt ttc ctc Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu 50 55 60			192
agc caa ctc tcc ttt gtg gat ttc tgc tat tcc tcc atc att gct ccc Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro 65 70 75 80			240
aag atg ttg gtg aac ctt gtt gtc aaa gac aga acc att tca ttt tta Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu 85 90 95			288
gga tgc gta gta caa ttc ttt ttc ttc tgt acc ttt gtg gtc act gaa Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu 100 105 110			336
tcc ttt tta tta gct gtg atg gcc tat gac cgc ttc gtg gcc att tgc Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys 115 120 125			384
aac cct ctg ctc tac aca gtt aac atg tcc cag aaa ctc tgc gtg ctg Asn Pro Leu Leu Tyr Thr Val Asn Met Ser Gln Lys Leu Cys Val Leu 130 135 140			432
ctg gtt gtg gga tcc tat gcc tgg gga gtc tca tgt tcc ttg gaa ctg Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu 145 150 155 160			480
acg tgc tct gct tta aag tta tgt ttt cat ggt ttc aac aca atc aat Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn 165 170 175			528
cac ttc ttc tgt gag ttc tcc tca cta ctc tcc ctt tct tgc tct gat His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp 180 185 190			576
act tac atc aac cag tgg ctg cta ttc ttt ctt gcc acc ttt aat gaa Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu 195 200 205			624
atc agc aca cta ctc atc gtt ctc aca tct tat gcg ttc att gtt gta Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val 210 215 220			672
acc atc ctc aag atg cgt tca gtc agt ggg cgc cgc aaa gcc ttc tcc Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser 225 230 235 240			720
acc tgt gcc tcc cac ctg act gcc atc acc atc ttc cat ggc acc atc Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile 245 250 255			768
ctc ttc ctt tac tgt gtg ccc aac tcc aaa aac tcc agg cac aca gtc Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val 260 265 270			816
aaa gtg gcc tct gtg ttt tac acc gtg gtg atc ccc atg ttg aat ccc Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro 275 280 285			864

ctg atc tac agt ctg aga aat aaa gat gtc aag gat aca gtc acc gag 912  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu  
 290 295 300

ata ctg gac acc aaa gtc ttc tct tac tga 942  
 Ile Leu Asp Thr Lys Val Phe Ser Tyr  
 305 310

<210> 250  
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<400> 250

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Gly Phe Ser Asp Tyr Pro Glu Leu Gln Val Pro Leu Phe Leu Val Phe  
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Leu Ala Ile Tyr Asn Val Thr Val Leu Gly Asn Ile Gly Leu Ile Val  
 35 40 45

Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

Ser Gln Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro  
 65 70 75 80

Lys Met Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu  
 85 90 95

Gly Cys Val Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr Glu  
 100 105 110

Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys  
 115 120 125

Asn Pro Leu Leu Tyr Thr Val Asn Met Ser Gln Lys Leu Cys Val Leu  
 130 135 140

Leu Val Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu  
 145 150 155 160

Thr Cys Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn  
 165 170 175

His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp  
 180 185 190

Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu  
 195 200 205

Ile Ser Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val  
 210 215 220

Thr Ile Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile  
 245 250 255

Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val  
 260 265 270

Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu  
 290 295 300

Ile Leu Asp Thr Lys Val Phe Ser Tyr  
 305 310

<210> 251  
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 <212> DNA  
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<220>  
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ttg ggc ttc tca gat tac ctg gaa ctg caa att ccc ctc ttc ttt gta 96  
 Leu Gly Phe Ser Asp Tyr Leu Glu Leu Gln Ile Pro Leu Phe Phe Val  
 20 25 30

ttt ctg gca gtc tac ggc ttc agt gtg gta ggg aat ctt ggg atg ata 144  
 Phe Leu Ala Val Tyr Gly Phe Ser Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

gtg atc atc aaa att aac cca aaa ttg cat acc ccc atg tat ttt ttc 192

Val	Ile	Ile	Lys	Ile	Asn	Pro	Lys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	
50						55					60					
ctc	aac	cac	ctc	tcc	ttt	gtg	gat	ttc	tgc	tat	tcc	tcc	atc	att	gct	240
Leu	Asn	His	Leu	Ser	Phe	Val	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Ile	Ala	
65					70				75						80	
ccc	atg	atg	ctg	gtg	aac	ctg	gtt	gta	gaa	gat	aga	acc	att	tca	ttc	288
Pro	Met	Met	Leu	Val	Asn	Leu	Val	Val	Glu	Asp	Arg	Thr	Ile	Ser	Phe	
				85					90					95		
tca	gga	tgt	ttg	gtg	caa	ttc	ttt	ttc	ttt	tgc	acc	ttt	gta	gtg	act	336
Ser	Gly	Cys	Leu	Val	Gln	Phe	Phe	Phe	Phe	Cys	Thr	Phe	Val	Val	Thr	
			100					105					110			
gaa	tta	att	cta	ttt	gcg	gtg	atg	gcc	tat	gac	cac	ttt	gtg	gcc	att	384
Glu	Leu	Ile	Leu	Phe	Ala	Val	Met	Ala	Tyr	Asp	His	Phe	Val	Ala	Ile	
		115					120					125				
tgc	aat	cct	ctg	ctc	tac	aca	gtt	gcc	atc	tcc	cag	aaa	ctc	tgt	gcc	432
Cys	Asn	Pro	Leu	Leu	Tyr	Thr	Val	Ala	Ile	Ser	Gln	Lys	Leu	Cys	Ala	
	130					135					140					
atg	ctg	gtg	gtt	gta	ttg	tat	gca	tgg	gga	gtc	gca	tgt	tcc	ctg	aca	480
Met	Leu	Val	Val	Val	Leu	Tyr	Ala	Trp	Gly	Val	Ala	Cys	Ser	Leu	Thr	
	145				150					155					160	
ctc	gcg	tgc	tct	gct	tta	aag	tta	tct	ttt	cat	ggt	ttc	aac	aca	atc	528
Leu	Ala	Cys	Ser	Ala	Leu	Lys	Leu	Ser	Phe	His	Gly	Phe	Asn	Thr	Ile	
				165					170					175		
aat	cat	ttc	ttc	tgt	gag	tta	tcc	tcc	ctg	ata	tca	ctc	tct	tac	cct	576
Asn	His	Phe	Phe	Cys	Glu	Leu	Ser	Ser	Leu	Ile	Ser	Leu	Ser	Tyr	Pro	
		180					185						190			
gac	tct	tat	ctc	agc	cag	ttg	ctt	ctt	ttc	act	gtt	gcc	act	ttt	aat	624
Asp	Ser	Tyr	Leu	Ser	Gln	Leu	Leu	Phe	Thr	Val	Ala	Thr	Phe	Asn		
		195				200					205					
gag	ata	agc	aca	cta	ctc	atc	att	ctg	aca	tct	tat	gca	ttc	atc	att	672
Glu	Ile	Ser	Thr	Leu	Leu	Ile	Ile	Leu	Thr	Ser	Tyr	Ala	Phe	Ile	Ile	
	210					215					220					
gtc	acc	acc	ttg	aag	atg	cct	tca	gcc	agt	ggg	cac	cgc	aaa	gtc	ttc	720
Val	Thr	Thr	Leu	Lys	Met	Pro	Ser	Ala	Ser	Gly	His	Arg	Lys	Val	Phe	
	225			230					235					240		
tcc	acc	tgt	gcc	tcc	cac	ctg	act	gcc	atc	acc	atc	ttc	cat	ggc	acc	768
Ser	Thr	Cys	Ala	Ser	His	Leu	Thr	Ala	Ile	Thr	Ile	Phe	His	Gly	Thr	
				245					250					255		
atc	ctc	ttc	ctc	tac	tgt	gta	ccc	aac	tcc	aaa	aac	tcc	agg	cac	aca	816
Ile	Leu	Phe	Leu	Tyr	Cys	Val	Pro	Asn	Ser	Lys	Asn	Ser	Arg	His	Thr	
			260					265					270			
gtc	aaa	gtg	gcc	tct	gtg	ttt	tac	acc	gtg	gtg	atc	ccc	ttg	ttg	aat	864
Val	Lys	Val	Ala	Ser	Val	Phe	Tyr	Thr	Val	Val	Ile	Pro	Leu	Leu	Asn	
	275					280					285					
ccc	ctg	atc	tac	agt	ctg	aga	aat	aaa	gat	gtt	aag	gat	gca	atc	cga	912
Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Asp	Ala	Ile	Arg	

290	295	300	
aaa ata atc aat aca aaa tat ttt cat att aaa cat agg cat tgg tat			960
Lys Ile Ile Asn Thr Lys Tyr Phe His Ile Lys His Arg His Trp Tyr			
305	310	315	320
cca ttt aat ttt gtt att gaa caa taa			987
Pro Phe Asn Phe Val Ile Glu Gln			
	325		
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Met Phe Leu Thr Glu Arg Asn Thr Thr Ser Glu Ala Thr Phe Thr Leu			
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Leu Gly Phe Ser Asp Tyr Leu Glu Leu Gln Ile Pro Leu Phe Phe Val			
	20	25	30
Phe Leu Ala Val Tyr Gly Phe Ser Val Val Gly Asn Leu Gly Met Ile			
	35	40	45
Val Ile Ile Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe			
	50	55	60
Leu Asn His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala			
65	70	75	80
Pro Met Met Leu Val Asn Leu Val Val Glu Asp Arg Thr Ile Ser Phe			
	85	90	95
Ser Gly Cys Leu Val Gln Phe Phe Phe Phe Cys Thr Phe Val Val Thr			
	100	105	110
Glu Leu Ile Leu Phe Ala Val Met Ala Tyr Asp His Phe Val Ala Ile			
	115	120	125
Cys Asn Pro Leu Leu Tyr Thr Val Ala Ile Ser Gln Lys Leu Cys Ala			
	130	135	140
Met Leu Val Val Val Leu Tyr Ala Trp Gly Val Ala Cys Ser Leu Thr			
145	150	155	160
Leu Ala Cys Ser Ala Leu Lys Leu Ser Phe His Gly Phe Asn Thr Ile			
	165	170	175

Asn His Phe Phe Cys Glu Leu Ser Ser Leu Ile Ser Leu Ser Tyr Pro  
180 185 190

Asp Ser Tyr Leu Ser Gln Leu Leu Leu Phe Thr Val Ala Thr Phe Asn  
195 200 205

Glu Ile Ser Thr Leu Leu Ile Ile Leu Thr Ser Tyr Ala Phe Ile Ile  
210 215 220

Val Thr Thr Leu Lys Met Pro Ser Ala Ser Gly His Arg Lys Val Phe  
225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
245 250 255

Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr  
260 265 270

Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Leu Leu Asn  
275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ile Arg  
290 295 300

Lys Ile Ile Asn Thr Lys Tyr Phe His Ile Lys His Arg His Trp Tyr  
305 310 315 320

Pro Phe Asn Phe Val Ile Glu Gln  
325

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<212> DNA  
<213> Homo Sapiens

<220>  
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ttg ggt ttt tca gaa tac cca gaa atc cag gtt cca ctc ttt ctg gtt 96  
Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val  
20 25 30

ttc ttg ttc gtc tac aca gtc act gta gtg ggg aac ttg ggc atg ata	144
Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile	
35 40 45	
ata atc atc aga ctc aat tca aaa ctc cat aca atc atg tgc ttt ttc	192
Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Cys Phe Phe	
50 55 60	
ctt agt cac ttg tcc ttg aca gac ttc tgt ttt tcc act gta gtt aca	240
Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr	
65 70 75 80	
cct aaa ctg ttg gag aac ttg gtt gtg gaa tac aga acc atc tct ttc	288
Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe	
85 90 95	
tct ggt tgc atc atg caa ttt tgt ttt gct tgc att ttt gga gtg aca	336
Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr	
100 105 110	
gaa act ttc atg tta gca gcg atg gct tat gac cgt ttt gtg gca gtt	384
Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val	
115 120 125	
tgt aaa ccc ttg ctg tat acc act att atg tct cag aag ctc tgt gct	432
Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala	
130 135 140	
ctt ctg gtg gct ggg tcc tat aca tgg ggg ata gtg tgc tcc ctg ata	480
Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile	
145 150 155 160	
ctc aca tat ttt ctt ctt gac tta tcg ttt tgt gaa tct acc ttc ata	528
Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile	
165 170 175	
aat aat ttt atc tgt gac cac tct gta att gtt tct gcc tcc tac tca	576
Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser	
180 185 190	
gac ccc tat atc agc cag agg cta tgc ttt att att gcc ata ttc aat	624
Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn	
195 200 205	
gag gtg agc agc cta att atc att ctg aca tca tat atg ctt att ttc	672
Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe	
210 215 220	
act acc att atg aag atg cga tct gca agt ggg cgc cag aaa act ttc	720
Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe	
225 230 235 240	
tcc acc tgt gcc tcc cac ctg aca gcc atc act atc ttc cat gga act	768
Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr	
245 250 255	
atc ctt ttc ctt tac tgt gtt cct aat cct aaa act tct agc ctc ata	816
Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile	
260 265 270	
gtt aca gtg gct tct gtg ttt tac aca gtg gcg att cca atg ctg aac	864

Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285

cca ttg atc tac agc ctt agg aac aaa gat atc aat aac atg ttt gaa 912  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
 290 295 300

aaa tta gtt gtc acc aaa ttg att tac cac tga 945  
 Lys Leu Val Val Thr Lys Leu Ile Tyr His  
 305 310

<210> 254  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 254

Met Met Ala Ser Glu Arg Asn Gln Ser Ser Thr Pro Thr Phe Ile Leu  
 1 5 10 15

Leu Gly Phe Ser Glu Tyr Pro Glu Ile Gln Val Pro Leu Phe Leu Val  
 20 25 30

Phe Leu Phe Val Tyr Thr Val Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

Ile Ile Ile Arg Leu Asn Ser Lys Leu His Thr Ile Met Cys Phe Phe  
 50 55 60

Leu Ser His Leu Ser Leu Thr Asp Phe Cys Phe Ser Thr Val Val Thr  
 65 70 75 80

Pro Lys Leu Leu Glu Asn Leu Val Val Glu Tyr Arg Thr Ile Ser Phe  
 85 90 95

Ser Gly Cys Ile Met Gln Phe Cys Phe Ala Cys Ile Phe Gly Val Thr  
 100 105 110

Glu Thr Phe Met Leu Ala Ala Met Ala Tyr Asp Arg Phe Val Ala Val  
 115 120 125

Cys Lys Pro Leu Leu Tyr Thr Thr Ile Met Ser Gln Lys Leu Cys Ala  
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Thr Trp Gly Ile Val Cys Ser Leu Ile  
 145 150 155 160

Leu Thr Tyr Phe Leu Leu Asp Leu Ser Phe Cys Glu Ser Thr Phe Ile  
 165 170 175



Asn Asn Phe Ile Cys Asp His Ser Val Ile Val Ser Ala Ser Tyr Ser  
 180 185 190

Asp Pro Tyr Ile Ser Gln Arg Leu Cys Phe Ile Ile Ala Ile Phe Asn  
 195 200 205

Glu Val Ser Ser Leu Ile Ile Ile Leu Thr Ser Tyr Met Leu Ile Phe  
 210 215 220

Thr Thr Ile Met Lys Met Arg Ser Ala Ser Gly Arg Gln Lys Thr Phe  
 225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
 245 250 255

Ile Leu Phe Leu Tyr Cys Val Pro Asn Pro Lys Thr Ser Ser Leu Ile  
 260 265 270

Val Thr Val Ala Ser Val Phe Tyr Thr Val Ala Ile Pro Met Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Ile Asn Asn Met Phe Glu  
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Lys Leu Val Val Thr Lys Leu Ile Tyr His  
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 tta ggt ttc aca gat tac cca aag ctt cag att cct ctc ttc ctt gtg 96  
 Leu Gly Phe Thr Asp Tyr Pro Lys Leu Gln Ile Pro Leu Phe Leu Val  
 20 25 30  
 ttt ctg ctc atg tat gtt atc aca gtg gta gga aac ctt ggg atg atc 144  
 Phe Leu Leu Met Tyr Val Ile Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

ata	ata	atc	aag	att	aac	ccc	aaa	ttt	cac	act	cct	atg	tac	ttt	ttc	192
Ile	Ile	Ile	Lys	Ile	Asn	Pro	Lys	Phe	His	Thr	Pro	Met	Tyr	Phe	Phe	
50						55					60					
ctt	agt	cac	ctc	tct	ttt	gtt	gat	ttt	tgt	tac	tct	tcc	att	gtc	act	240
Leu	Ser	His	Leu	Ser	Phe	Val	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Val	Thr	
65					70					75					80	
ccc	aag	ctg	ctt	gag	aac	ttg	gta	atg	gca	gat	aaa	agc	atc	ttc	tac	288
Pro	Lys	Leu	Leu	Glu	Asn	Leu	Val	Met	Ala	Asp	Lys	Ser	Ile	Phe	Tyr	
				85					90					95		
ttt	agc	tgc	atg	atg	cag	tac	ttc	ctg	tcc	tgc	act	gct	gtg	gtg	aca	336
Phe	Ser	Cys	Met	Met	Gln	Tyr	Phe	Leu	Ser	Cys	Thr	Ala	Val	Val	Thr	
			100					105					110			
gag	tct	ttc	ttg	ctg	gca	gtg	atg	gcc	tat	gac	cgc	ttt	gtg	gcc	atc	384
Glu	Ser	Phe	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Phe	Val	Ala	Ile	
		115				120						125				
tgc	aat	cct	ctg	ctt	tat	aca	gtg	gcc	atg	tca	cag	agg	ctc	tgt	gcc	432
Cys	Asn	Pro	Leu	Leu	Tyr	Thr	Val	Ala	Met	Ser	Gln	Arg	Leu	Cys	Ala	
	130					135					140					
ctg	ctg	gtg	gct	ggg	tca	tat	ctc	tgg	ggc	atg	ttt	ggc	ccc	ttg	gta	480
Leu	Leu	Val	Ala	Gly	Ser	Tyr	Leu	Trp	Gly	Met	Phe	Gly	Pro	Leu	Val	
145					150					155					160	
ctc	ctt	tgt	tat	gct	ctc	cgg	tta	aac	ttc	tct	gga	cct	aat	gta	atc	528
Leu	Leu	Cys	Tyr	Ala	Leu	Arg	Leu	Asn	Phe	Ser	Gly	Pro	Asn	Val	Ile	
				165					170					175		
aac	cac	ttc	ttt	tgt	gag	tat	act	gct	ctc	atc	tct	gtg	tct	ggc	tct	576
Asn	His	Phe	Phe	Cys	Glu	Tyr	Thr	Ala	Leu	Ile	Ser	Val	Ser	Gly	Ser	
			180					185					190			
gat	ata	ctc	atc	ccc	cac	ctg	ctg	ctt	ttc	agc	ttc	gcc	acc	ttc	aat	624
Asp	Ile	Leu	Ile	Pro	His	Leu	Leu	Leu	Phe	Ser	Phe	Ala	Thr	Phe	Asn	
		195					200					205				
gag	atg	tgt	aca	cta	ctg	atc	atc	ctc	act	tcc	tat	gtt	ttc	att	ttt	672
Glu	Met	Cys	Thr	Leu	Leu	Ile	Ile	Leu	Thr	Ser	Tyr	Val	Phe	Ile	Phe	
	210					215					220					
gtg	act	gta	cta	aaa	atc	cgt	tct	gtt	agt	ggg	cgc	cac	aaa	gcc	ttc	720
Val	Thr	Val	Leu	Lys	Ile	Arg	Ser	Val	Ser	Gly	Arg	His	Lys	Ala	Phe	
225					230					235				240		
tcc	acc	tgg	gcc	tcc	cac	ctg	act	tct	atc	acc	atc	ttc	cat	ggg	acc	768
Ser	Thr	Trp	Ala	Ser	His	Leu	Thr	Ser	Ile	Thr	Ile	Phe	His	Gly	Thr	
				245					250					255		
atc	ctt	ttc	ctt	tac	tgt	gta	ccc	aac	tcc	aaa	aac	tct	cgg	caa	aca	816
Ile	Leu	Phe	Leu	Tyr	Cys	Val	Pro	Asn	Ser	Lys	Asn	Ser	Arg	Gln	Thr	
			260					265					270			
gtc	aaa	gtg	gcc	tct	gta	ttt	tac	aca	gtt	gtc	aac	ccc	atg	ctg	aac	864
Val	Lys	Val	Ala	Ser	Val	Phe	Tyr	Thr	Val	Val	Asn	Pro	Met	Leu	Asn	
		275					280					285				

cct ctg atc tac agc cta agg aat aaa gac gtg aag gat gct ttc tgg 912  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Phe Trp  
 290 295 300

aag tta ata cat aca caa gtt cca ttt cac tga 945  
 Lys Leu Ile His Thr Gln Val Pro Phe His  
 305 310

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<400> 256

Met Met Met Val Leu Arg Asn Leu Ser Met Glu Pro Thr Phe Ala Leu  
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Leu Gly Phe Thr Asp Tyr Pro Lys Leu Gln Ile Pro Leu Phe Leu Val  
 20 25 30

Phe Leu Leu Met Tyr Val Ile Thr Val Val Gly Asn Leu Gly Met Ile  
 35 40 45

Ile Ile Ile Lys Ile Asn Pro Lys Phe His Thr Pro Met Tyr Phe Phe  
 50 55 60

Leu Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Val Thr  
 65 70 75 80

Pro Lys Leu Leu Glu Asn Leu Val Met Ala Asp Lys Ser Ile Phe Tyr  
 85 90 95

Phe Ser Cys Met Met Gln Tyr Phe Leu Ser Cys Thr Ala Val Val Thr  
 100 105 110

Glu Ser Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Arg Leu Cys Ala  
 130 135 140

Leu Leu Val Ala Gly Ser Tyr Leu Trp Gly Met Phe Gly Pro Leu Val  
 145 150 155 160

Leu Leu Cys Tyr Ala Leu Arg Leu Asn Phe Ser Gly Pro Asn Val Ile  
 165 170 175

Asn His Phe Phe Cys Glu Tyr Thr Ala Leu Ile Ser Val Ser Gly Ser

180					185					190						
Asp	Ile	Leu	Ile	Pro	His	Leu	Leu	Leu	Phe	Ser	Phe	Ala	Thr	Phe	Asn	
195					200					205						
Glu	Met	Cys	Thr	Leu	Leu	Ile	Ile	Leu	Thr	Ser	Tyr	Val	Phe	Ile	Phe	
210					215					220						
Val	Thr	Val	Leu	Lys	Ile	Arg	Ser	Val	Ser	Gly	Arg	His	Lys	Ala	Phe	
225					230					235					240	
Ser	Thr	Trp	Ala	Ser	His	Leu	Thr	Ser	Ile	Thr	Ile	Phe	His	Gly	Thr	
245					250					255						
Ile	Leu	Phe	Leu	Tyr	Cys	Val	Pro	Asn	Ser	Lys	Asn	Ser	Arg	Gln	Thr	
260					265					270						
Val	Lys	Val	Ala	Ser	Val	Phe	Tyr	Thr	Val	Val	Asn	Pro	Met	Leu	Asn	
275					280					285						
Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys	Asp	Ala	Phe	Trp	
290					295					300						
Lys	Leu	Ile	His	Thr	Gln	Val	Pro	Phe	His							
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Met	Glu	Ser	Pro	Asn	Gln	Thr	Thr	Ile	Gln	Glu	Phe	Ile	Phe	Ser	Ala	
1				5					10					15		
ttc	cct	tat	tcc	tgg	gtt	aag	tct	gtt	gtc	tgc	ttt	gtt	cca	ctg	ctc	96
Phe	Pro	Tyr	Ser	Trp	Val	Lys	Ser	Val	Val	Cys	Phe	Val	Pro	Leu	Leu	
			20					25					30			
ttc	atc	tat	gct	ttc	att	gtt	gtt	gga	aac	ctg	gtc	atc	atc	aca	gtg	144
Phe	Ile	Tyr	Ala	Phe	Ile	Val	Val	Gly	Asn	Leu	Val	Ile	Ile	Thr	Val	
			35				40					45				
gtc	cag	ttg	aat	act	cac	ctc	cac	act	ccc	atg	tat	act	ttt	atc	agt	192
Val	Gln	Leu	Asn	Thr	His	Leu	His	Thr	Pro	Met	Tyr	Thr	Phe	Ile	Ser	

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gct ctt tct ttt ctg gag att tgg tat acc aca gcc aca atc cca aag Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys 65 70 75 80			240
atg ctg tct agc ctg ctt agt gag agg agc att tcc ttc aat ggt tgt Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys 85 90 95			288
ctc ctg cag atg tat ttc ttc cat tcc acc ggc atc tgt gag gtg tgt Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys 100 105 110			336
ctc ttg aca gtt atg gcc ttt gac cac tac ctg gcc ata tgc agc cct Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro 115 120 125			384
ctt cat tat ccc tct atc atg acc ccc aag cta tgt acc caa ctg act Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr 130 135 140			432
tta agt tgc tgt gtt tgt ggc ttt atc aca ccc gtt cct gag att gcc Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Val Pro Glu Ile Ala 145 150 155 160			480
tgg atc tct aca ctg cca ttt tgt ggt tgc aat cac ctt gaa cat atc Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile 165 170 175			528
ttc tgt gac ttc ctc cca gtg ctg cgt ctg gcc tgc aca gac aca cga Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg 180 185 190			576
gcc atc gtc atg att cag gta gtg gat gtc att cat gca gtg gag att Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile 195 200 205			624
att aca gct gtg atg ctc atc ttc atg tcc tac gat ggt att gtg gct Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala 210 215 220			672
gta att cta cgt att cat tca gct gga ggc cgc cgc aca gca ttt tcc Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser 225 230 235 240			720
acg tgt gtc tct cac ttc att gtc ttt tgc ctc ttc ttt ggc agt gtg Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val 245 250 255			768
act ctc atg tac cta cgc ttc tct gcc acc tac tct ttg ttc tgg gat Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp 260 265 270			816
ata gcc att gct ctg gcc ttt gca gtt ttg tct ccc ttc ttc aac ccc Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro 275 280 285			864
att atc tat agc ctg agg aat aaa gaa ata aaa gaa gct ata aaa aag Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys 290 295 300			912

cac ata ggt caa gct aag ata ttt ttt tcc gta aga cca ggg acc tca 960  
 His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser  
 305 310 315 320

agt aag ata ttt tag 975  
 Ser Lys Ile Phe

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<400> 258

Met Glu Ser Pro Asn Gln Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala  
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Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu  
 20 25 30

Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val  
 35 40 45

Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser  
 50 55 60

Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys  
 65 70 75 80

Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys  
 85 90 95

Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys  
 100 105 110

Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro  
 115 120 125

Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr  
 130 135 140

Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Val Pro Glu Ile Ala  
 145 150 155 160

Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile  
 165 170 175

Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg  
 180 185 190

Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile  
 195 200 205

Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala  
 210 215 220

Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser  
 225 230 235 240

Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val  
 245 250 255

Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp  
 260 265 270

Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro  
 275 280 285

Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys  
 290 295 300

His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser  
 305 310 315 320

Ser Lys Ile Phe

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 ttc cct cag ctt cag gat ggt agt ctc ctg tac ttc ttt cct tta ctt 96  
 Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu  
 20 25 30  
 ttc atc tat act ttt att atc att gat aac tta tta atc ttc tct gct 144

Phe	Ile	Tyr	Thr	Phe	Ile	Ile	Ile	Asp	Asn	Leu	Leu	Ile	Phe	Ser	Ala	
		35					40					45				
gta	agg	ctg	gac	acc	cat	ctc	cac	aac	ccc	atg	tat	aat	ttt	atc	agt	192
Val	Arg	Leu	Asp	Thr	His	Leu	His	Asn	Pro	Met	Tyr	Asn	Phe	Ile	Ser	
	50					55				60						
ata	ttt	tcc	ttt	ctg	gag	atc	tgg	tac	acc	aca	gcc	acc	att	ccc	aag	240
Ile	Phe	Ser	Phe	Leu	Glu	Ile	Trp	Tyr	Thr	Thr	Ala	Thr	Ile	Pro	Lys	
65				70					75					80		
atg	ctc	tcc	aac	ctc	atc	agt	gaa	aag	aag	gcc	atc	tca	atg	act	ggc	288
Met	Leu	Ser	Asn	85	Ile	Ser	Glu	Lys	Lys	Ala	Ile	Ser	Met	Thr	Gly	
								90					95			
tgc	atc	ttg	cag	atg	tat	ttc	ttc	cac	tca	ctt	gaa	aac	tca	gag	ggg	336
Cys	Ile	Leu	Gln	Met	Tyr	Phe	Phe	His	Ser	Leu	Glu	Asn	Ser	Glu	Gly	
			100					105					110			
atc	ttg	ctg	acc	acc	atg	gcc	att	gac	aga	tac	gtt	gcc	atc	tgc	aac	384
Ile	Leu	Leu	Thr	Thr	Met	Ala	Ile	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn	
			115				120					125				
cct	ctt	cgc	tat	caa	atg	atc	atg	acc	ccc	cgg	ctc	tgt	gct	cac	ctc	432
Pro	Leu	Arg	Tyr	Gln	Met	Ile	Met	Thr	Pro	Arg	Leu	Cys	Ala	His	Leu	
			130			135					140					
tct	gca	ggg	tcc	tgc	ctc	ttc	ggg	ttc	ctt	atc	ctg	ctt	ccc	gag	att	480
Ser	Ala	Gly	Ser	Cys	Leu	Phe	Gly	Phe	Leu	Ile	Leu	Leu	Pro	Glu	Ile	
145				150					155					160		
gtg	atg	att	tcc	aca	ctg	cct	ttc	tgt	ggg	ccc	aac	caa	atc	cat	cag	528
Val	Met	Ile	Ser	Thr	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Gln	Ile	His	Gln	
				165					170				175			
atc	ttc	tgt	gac	ttg	gtc	cct	gtg	cta	agc	ctg	gcc	tgt	aca	gac	acg	576
Ile	Phe	Cys	Asp	Leu	Val	Pro	Val	Leu	Ser	Leu	Ala	Cys	Thr	Asp	Thr	
			180					185					190			
tcc	atg	att	ctg	att	gag	gat	gtg	att	cat	gct	gtg	acc	atc	atc	att	624
Ser	Met	Ile	Leu	Ile	Glu	Asp	Val	Ile	His	Ala	Val	Thr	Ile	Ile	Ile	
			195				200					205				
acc	ttc	cta	atc	att	gcc	ctg	tcc	tat	gta	aga	att	gtc	act	gtg	ata	672
Thr	Phe	Leu	Ile	Ile	Ala	Leu	Ser	Tyr	Val	Arg	Ile	Val	Thr	Val	Ile	
			210			215					220					
ttg	agg	att	ccc	tct	tct	gaa	ggg	agg	caa	aag	gct	ttt	tct	acc	tgt	720
Leu	Arg	Ile	Pro	Ser	Ser	Glu	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	
225				230					235					240		
gca	ggc	cac	ctc	atg	gtc	ttc	ctg	ata	ttc	ttt	ggc	agt	gta	tca	ctc	768
Ala	Gly	His	Leu	Met	Val	Phe	Leu	Ile	Phe	Phe	Gly	Ser	Val	Ser	Leu	
				245					250				255			
atg	tac	ttg	cgt	ttc	agc	aac	act	tat	cca	cca	gtt	ttg	gac	aca	gcc	816
Met	Tyr	Leu	Arg	Phe	Ser	Asn	Thr	Tyr	Pro	Pro	Val	Leu	Asp	Thr	Ala	
			260					265				270				
att	gca	ctg	atg	ttt	act	gta	ctt	gct	cca	ttc	ttc	aat	ccc	atc	att	864
Ile	Ala	Leu	Met	Phe	Thr	Val	Leu	Ala	Pro	Phe	Phe	Asn	Pro	Ile	Ile	



275                                      280                                      285  
 tat agc ctg aga aac aag gac atg aac aat gca att aaa aaa ctg ttc                      912  
 Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe  
 290                                      295                                      300  
 tgt ctt caa aaa gtg ttg aac aag cct gga ggt taa                                      948  
 Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly  
 305                                      310                                      315

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<400> 260

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Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu  
20                                      25                                      30

Phe Ile Tyr Thr Phe Ile Ile Ile Asp Asn Leu Leu Ile Phe Ser Ala  
35                                      40                                      45

Val Arg Leu Asp Thr His Leu His Asn Pro Met Tyr Asn Phe Ile Ser  
50                                      55                                      60

Ile Phe Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys  
65                                      70                                      75                                      80

Met Leu Ser Asn Leu Ile Ser Glu Lys Lys Ala Ile Ser Met Thr Gly  
85                                      90                                      95

Cys Ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly  
100                                      105                                      110

Ile Leu Leu Thr Thr Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn  
115                                      120                                      125

Pro Leu Arg Tyr Gln Met Ile Met Thr Pro Arg Leu Cys Ala His Leu  
130                                      135                                      140

Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile  
145                                      150                                      155                                      160

Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln  
165                                      170                                      175

Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr  
 180 185 190

Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile  
 195 200 205

Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile  
 210 215 220

Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys  
 225 230 235 240

Ala Gly His Leu Met Val Phe Leu Ile Phe Phe Gly Ser Val Ser Leu  
 245 250 255

Met Tyr Leu Arg Phe Ser Asn Thr Tyr Pro Pro Val Leu Asp Thr Ala  
 260 265 270

Ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro Ile Ile  
 275 280 285

Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe  
 290 295 300

Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly  
 305 310 315

<210> 261  
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 Met Asp Gly Asp Asn Gln Ser Glu Asn Ser Gln Phe Leu Leu Leu Gly  
 1 5 10 15

atc tca gag agt cct gag cag cag cgg atc ctg ttt tgg atg ttc ctg 96  
 Ile Ser Glu Ser Pro Glu Gln Gln Arg Ile Leu Phe Trp Met Phe Leu  
 20 25 30

tcc atg tac ctg gtc acg gtg ctg gga aat gtg ctc atc atc ctg gcc 144  
 Ser Met Tyr Leu Val Thr Val Leu Gly Asn Val Leu Ile Ile Leu Ala  
 35 40 45

atc agc tct gat tcc cac ctg cac acc ccc atg tac ttc ttc ctg gcc Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ala 50 55 60	192
aac ctc tcc ttc act gac ctc ttc ttt gtc acc aac aca atc ccc aag Asn Leu Ser Phe Thr Asp Leu Phe Phe Val Thr Asn Thr Ile Pro Lys 65 70 75 80	240
atg ctg gtg aac ttc cag tcc cag aac aaa gcc atc tcc tat gca ggg Met Leu Val Asn Phe Gln Ser Gln Asn Lys Ala Ile Ser Tyr Ala Gly 85 90 95	288
tgt ctg aca cag ctc tac ttc ctg gtc tcc ttg gtg acc ctg gac aac Cys Leu Thr Gln Leu Tyr Phe Leu Val Ser Leu Val Thr Leu Asp Asn 100 105 110	336
ctc atc ctg gcc gtg atg gcg tat gat cgc tat gtg gcc acc tgc tgc Leu Ile Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Thr Cys Cys 115 120 125	384
ccc ctc cac tat gtc aca gcc atg agc cct ggg ctc tgt gtc ttg ctc Pro Leu His Tyr Val Thr Ala Met Ser Pro Gly Leu Cys Val Leu Leu 130 135 140	432
ctc tcc ttg tgt tgg ggg ctg tct gtt ctc tat ggc ctc ctc ctc acc Leu Ser Leu Cys Trp Gly Leu Ser Val Leu Tyr Gly Leu Leu Leu Thr 145 150 155 160	480
ttc ctc ctg acc agg gtg acc ttc tgt ggg cct cga gag atc cac tac Phe Leu Leu Thr Arg Val Thr Phe Cys Gly Pro Arg Glu Ile His Tyr 165 170 175	528
ctc ttc tgt gac atg tac atc ctg ctg tgg ctg gca tgt tcc aac acc Leu Phe Cys Asp Met Tyr Ile Leu Leu Trp Leu Ala Cys Ser Asn Thr 180 185 190	576
cac atc att cac aca gcg ttg att gcc act ggc tgc ttc atc ttc ctc His Ile Ile His Thr Ala Leu Ile Ala Thr Gly Cys Phe Ile Phe Leu 195 200 205	624
acc ccc tta ggg ttc atg acc aca tcc tat gta cgt att gtc aga acc Thr Pro Leu Gly Phe Met Thr Thr Ser Tyr Val Arg Ile Val Arg Thr 210 215 220	672
atc ctt caa atg ccc tcg gcc tct aag aaa tac aaa acc ttc tct acc Ile Leu Gln Met Pro Ser Ala Ser Lys Lys Tyr Lys Thr Phe Ser Thr 225 230 235 240	720
tgt gcc tcc cat ttg ggt gtg gtc tcc ctc ttt tat ggg acg ctt gct Cys Ala Ser His Leu Gly Val Val Ser Leu Phe Tyr Gly Thr Leu Ala 245 250 255	768
atg gtg tac ctg cag ccc ctc cat acc tac tcc atg aag gac tca gta Met Val Tyr Leu Gln Pro Leu His Thr Tyr Ser Met Lys Asp Ser Val 260 265 270	816
gcc aca gtg atg tat gct gtg ctg aca cct atg atg aac cct ttc atc Ala Thr Val Met Tyr Ala Val Leu Thr Pro Met Met Asn Pro Phe Ile 275 280 285	864
tac agg ctg agg aac aaa gac atg cat ggg gct ccg gga aga gtc cta	912

Tyr Arg Leu Arg Asn Lys Asp Met His Gly Ala Pro Gly Arg Val Leu  
 290 295 300

tgg aga ccc ttt cag agg cct aaa tga  
 Trp Arg Pro Phe Gln Arg Pro Lys  
 305 310

939

<210> 262  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 262

Met Asp Gly Asp Asn Gln Ser Glu Asn Ser Gln Phe Leu Leu Leu Gly  
 1 5 10 15

Ile Ser Glu Ser Pro Glu Gln Gln Arg Ile Leu Phe Trp Met Phe Leu  
 20 25 30

Ser Met Tyr Leu Val Thr Val Leu Gly Asn Val Leu Ile Ile Leu Ala  
 35 40 45

Ile Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
 50 55 60

Asn Leu Ser Phe Thr Asp Leu Phe Phe Val Thr Asn Thr Ile Pro Lys  
 65 70 75 80

Met Leu Val Asn Phe Gln Ser Gln Asn Lys Ala Ile Ser Tyr Ala Gly  
 85 90 95

Cys Leu Thr Gln Leu Tyr Phe Leu Val Ser Leu Val Thr Leu Asp Asn  
 100 105 110

Leu Ile Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Thr Cys Cys  
 115 120 125

Pro Leu His Tyr Val Thr Ala Met Ser Pro Gly Leu Cys Val Leu Leu  
 130 135 140

Leu Ser Leu Cys Trp Gly Leu Ser Val Leu Tyr Gly Leu Leu Leu Thr  
 145 150 155 160

Phe Leu Leu Thr Arg Val Thr Phe Cys Gly Pro Arg Glu Ile His Tyr  
 165 170 175

Leu Phe Cys Asp Met Tyr Ile Leu Leu Trp Leu Ala Cys Ser Asn Thr  
 180 185 190

His Ile Ile His Thr Ala Leu Ile Ala Thr Gly Cys Phe Ile Phe Leu  
195 200 205

Thr Pro Leu Gly Phe Met Thr Thr Ser Tyr Val Arg Ile Val Arg Thr  
210 215 220

Ile Leu Gln Met Pro Ser Ala Ser Lys Lys Tyr Lys Thr Phe Ser Thr  
225 230 235 240

Cys Ala Ser His Leu Gly Val Val Ser Leu Phe Tyr Gly Thr Leu Ala  
245 250 255

Met Val Tyr Leu Gln Pro Leu His Thr Tyr Ser Met Lys Asp Ser Val  
260 265 270

Ala Thr Val Met Tyr Ala Val Leu Thr Pro Met Met Asn Pro Phe Ile  
275 280 285

Tyr Arg Leu Arg Asn Lys Asp Met His Gly Ala Pro Gly Arg Val Leu  
290 295 300

Trp Arg Pro Phe Gln Arg Pro Lys  
305 310

<210> 263  
<211> 894  
<212> DNA  
<213> Homo Sapiens

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<222> (1)..(891)  
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<400> 263  
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Met Gln Gln Asn Asn Ser Val Pro Glu Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15  
cag gat ccc ttg agg cag aaa ata gtg ttt gta atc ttc tta att ttc 96  
Gln Asp Pro Leu Arg Gln Lys Ile Val Phe Val Ile Phe Leu Ile Phe  
20 25 30  
tat atg gga act gtg gtg ggg aat atg ctc att att gtg acc atc aag 144  
Tyr Met Gly Thr Val Val Gly Asn Met Leu Ile Ile Val Thr Ile Lys  
35 40 45  
tcc agc cgg aca cta gga agc ccc atg tac ttc ttt cta ttt tat ttg 192  
Ser Ser Arg Thr Leu Gly Ser Pro Met Tyr Phe Phe Leu Phe Tyr Leu  
50 55 60

tcc ttt gca gat tct tgc ttt tca act tcc aca gcc cct aga tta att	240
Ser Phe Ala Asp Ser Cys Phe Ser Thr Ser Thr Ala Pro Arg Leu Ile	
65 70 75 80	
gtg gat gct ctc tct gaa aag aaa att ata acc tac aat gag tgc atg	288
Val Asp Ala Leu Ser Glu Lys Lys Ile Ile Thr Tyr Asn Glu Cys Met	
85 90 95	
aca caa gtc ttt gca cta cat tta ttt ggc tgc atg gag atc ttt gtc	336
Thr Gln Val Phe Ala Leu His Leu Phe Gly Cys Met Glu Ile Phe Val	
100 105 110	
ctc att ctc atg gct gtt gat cgc tat gtg gcc atc tgt aag ccc ttg	384
Leu Ile Leu Met Ala Val Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu	
115 120 125	
cgt tac cca acc atc atg agc cag cag gtc tgc atc atc ctg att gtt	432
Arg Tyr Pro Thr Ile Met Ser Gln Gln Val Cys Ile Ile Leu Ile Val	
130 135 140	
ctt gcc tgg ata ggg tct tta ata cac tct aca gct cag att atc ctg	480
Leu Ala Trp Ile Gly Ser Leu Ile His Ser Thr Ala Gln Ile Ile Leu	
145 150 155 160	
gcc tta aga ttg cct ttc tgt gga ccc tat ttg att gat cat tat tgc	528
Ala Leu Arg Leu Pro Phe Cys Gly Pro Tyr Leu Ile Asp His Tyr Cys	
165 170 175	
tgt gat ttg cag ccc ttg ttg aaa ctt gcc tgc atg gac act tac atg	576
Cys Asp Leu Gln Pro Leu Leu Lys Leu Ala Cys Met Asp Thr Tyr Met	
180 185 190	
atc aac ctg ctg ttg gtg tct aac agt ggg gca att tgc tca agt agt	624
Ile Asn Leu Leu Leu Val Ser Asn Ser Gly Ala Ile Cys Ser Ser Ser	
195 200 205	
ttc atg att ttg ata att tca tat att gtc atc ttg cat tca ctg aga	672
Phe Met Ile Leu Ile Ile Ser Tyr Ile Val Ile Leu His Ser Leu Arg	
210 215 220	
aac cac agt gcc aaa ggg aag aaa aag gct ctc tcc gct tgc acg tct	720
Asn His Ser Ala Lys Gly Lys Lys Lys Ala Leu Ser Ala Cys Thr Ser	
225 230 235 240	
cac ata att gta gtc atc tta ttc ttt ggc cca tgt ata ttc ata tat	768
His Ile Ile Val Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile Tyr	
245 250 255	
aca cgc ccc ccg acc act ttc ccc atg gac aag atg gtg gca gta ttt	816
Thr Arg Pro Pro Thr Thr Phe Pro Met Asp Lys Met Val Ala Val Phe	
260 265 270	
tat act att gga aca ccc ttt ctc aat cca ctc atc tac aca tct gag	864
Tyr Thr Ile Gly Thr Pro Phe Leu Asn Pro Leu Ile Tyr Thr Ser Glu	
275 280 285	
gaa tgc aga agt gaa aaa tgc cat gag aaa	894
Glu Cys Arg Ser Glu Lys Cys His Glu	
290 295	

<210> 264  
 <211> 297  
 <212> PRT  
 <213> Homo Sapiens

<400> 264

Met Gln Gln Asn Asn Ser Val Pro Glu Phe Ile Leu Leu Gly Leu Thr  
 1 5 10 15

Gln Asp Pro Leu Arg Gln Lys Ile Val Phe Val Ile Phe Leu Ile Phe  
 20 25 30

Tyr Met Gly Thr Val Val Gly Asn Met Leu Ile Ile Val Thr Ile Lys  
 35 40 45

Ser Ser Arg Thr Leu Gly Ser Pro Met Tyr Phe Phe Leu Phe Tyr Leu  
 50 55 60

Ser Phe Ala Asp Ser Cys Phe Ser Thr Ser Thr Ala Pro Arg Leu Ile  
 65 70 75 80

Val Asp Ala Leu Ser Glu Lys Lys Ile Ile Thr Tyr Asn Glu Cys Met  
 85 90 95

Thr Gln Val Phe Ala Leu His Leu Phe Gly Cys Met Glu Ile Phe Val  
 100 105 110

Leu Ile Leu Met Ala Val Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

Arg Tyr Pro Thr Ile Met Ser Gln Gln Val Cys Ile Ile Leu Ile Val  
 130 135 140

Leu Ala Trp Ile Gly Ser Leu Ile His Ser Thr Ala Gln Ile Ile Leu  
 145 150 155 160

Ala Leu Arg Leu Pro Phe Cys Gly Pro Tyr Leu Ile Asp His Tyr Cys  
 165 170 175

Cys Asp Leu Gln Pro Leu Leu Lys Leu Ala Cys Met Asp Thr Tyr Met  
 180 185 190

Ile Asn Leu Leu Leu Val Ser Asn Ser Gly Ala Ile Cys Ser Ser Ser  
 195 200 205

Phe Met Ile Leu Ile Ile Ser Tyr Ile Val Ile Leu His Ser Leu Arg

210					215					220					
Asn	His	Ser	Ala	Lys	Gly	Lys	Lys	Lys	Ala	Leu	Ser	Ala	Cys	Thr	Ser
225					230					235					240
His	Ile	Ile	Val	Val	Ile	Leu	Phe	Phe	Gly	Pro	Cys	Ile	Phe	Ile	Tyr
				245					250					255	
Thr	Arg	Pro	Pro	Thr	Thr	Phe	Pro	Met	Asp	Lys	Met	Val	Ala	Val	Phe
			260					265					270		
Tyr	Thr	Ile	Gly	Thr	Pro	Phe	Leu	Asn	Pro	Leu	Ile	Tyr	Thr	Ser	Glu
		275					280					285			
Glu	Cys	Arg	Ser	Glu	Lys	Cys	His	Glu							
290						295									

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<210> 265
<211> 915
<212> DNA
<213> Homo Sapiens
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<220>
<221> CDS
<222> (1) .. (915)
<223>
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[illegible]



100	105	110	
atg ttg ctt gta gcc atg gca ata gac agg tat gtt gcc ata tgc aaa			384
Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Lys			
115	120	125	
ccc ctc cat tac atg acc atc atg agc cca cgg gtg ctc act ggg cta			432
Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr Gly Leu			
130	135	140	
ctg tta tcc tcc tat gca gtt gga ttt gtg cac tca tct agt caa atg			480
Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser Gln Met			
145	150	155	160
gct ttc atg ttg act ttg ccc ttc tgt ggt ccc aat gtt ata gac agc			528
Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Ser			
165	170	175	
ttt ttc tgt gac ctt ccc ctt gtg att aaa ctt gcc tgc aag gac acc			576
Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys Asp Thr			
180	185	190	
tac atc cta cag ctc ctg gtc att gct gac agt ggg ctc ctg tca ctg			624
Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu Ser Leu			
195	200	205	
gtc tgc ttc ctc ctc ttg ctt gtc tcc tat gga gtc ata ata ttc tca			672
Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile Phe Ser			
210	215	220	
gtt agg tac cgt gct gct agt cga tcc tct aag gct ttc tcc act ctc			720
Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser Thr Leu			
225	230	235	240
tca gct cac atc aca gtt gtg act ctg ttc ttt gct ccg tgt gtc ttt			768
Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys Val Phe			
245	250	255	
atc tac gtc tgg ccc ttc agc aga tac tcg gta gat aaa att ctt tct			816
Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile Leu Ser			
260	265	270	
gtg ttt tac aca att ttc aca cct ctc tta aat cct att att tat aca			864
Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr Thr			
275	280	285	
tta aga aat caa gag gta aaa gca gcc att aaa aaa aga ctc tgc ata			912
Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu Cys Ile			
290	295	300	
taa			915

<210> 266  
 <211> 304  
 <212> PRT  
 <213> Homo Sapiens  
  
 <400> 266

Met Glu Arg Ala Asn His Ser Val Val Ser Glu Phe Ile Leu Leu Gly

1	5	10	15
Leu Ser Lys Ser Gln Asn Leu Gln Ile Leu Phe Phe Leu Gly Phe Ser	20	25	30
Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu Val Thr	35	40	45
Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu Leu Ser	50	55	60
Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr Pro Lys	65	70	75
Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp Trp Gly	85	90	95
Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser Glu Met	100	105	110
Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Lys	115	120	125
Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr Gly Leu	130	135	140
Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser Gln Met	145	150	155
Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Ser	165	170	175
Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys Asp Thr	180	185	190
Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu Ser Leu	195	200	205
Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile Phe Ser	210	215	220
Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser Thr Leu	225	230	235
Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys Val Phe	245	250	255

Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile Leu Ser  
260 265 270

Val	Phe	Tyr	Thr	Ile	Phe	Thr	Pro	Leu	Leu	Asn	Pro	Ile	Ile	Tyr	Thr
		275					280					285			

Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu Cys Ile  
290 295 300

<210> 267

<211> 942

<212> DNA

<213> Homo Sapiens

**<220>**

<221> CDS

<222> (1) . . (939)

<223>

<400> 267

atg gca aat ctg agc cag ccc tcc gaa ttt gtc ctc ttg ggc ttc tcc 48  
Met Ala Asn Leu Ser Gln Pro Ser Glu Phe Val Leu Leu Gly Phe Ser  
1 5 10 15

tcc	ttt	ggt	gag	ctg	cag	gcc	ctt	ctg	tat	ggc	ccc	ttc	ctc	atg	ctt	96
Ser	Phe	Gly	Glu	Leu	Gln	Ala	Leu	Leu	Tyr	Gly	Pro	Phe	Leu	Met	Leu	
		20					25					30				

tat	ctt	ctc	gcc	ttc	atg	gga	aac	acc	atc	atc	ata	gtt	atg	gtc	ata	144
Tyr	Leu	Leu	Ala	Phe	Met	Gly	Asn	Thr	Ile	Ile	Ile	Val	Met	Val	Ile	.
		35				40					45					

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gct gac acc cac cta cat aca ccc atg tac ttc ttc ctg ggc aat ttt      192
Ala Asp Thr His Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Phe
      50                      55                      60
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tcc ctg ctg gag atc ttg gta acc atg act gca gtg ccc agg atg ctc 240  
Ser Leu Leu Glu Ile Leu Val Thr Met Thr Ala Val Pro Arg Met Leu  
65 70 75 80

tca gac ctg ttg gtc ccc cac aaa gtc att acc ttc act ggc tgc atg 288  
Ser Asp Leu Leu Val Pro His Lys Val Ile Thr Phe Thr Gly Cys Met  
85 90 95

gtc cag ttc tac ttc cac ttt tcc ctg ggg tcc acc tcc ttc ctc atc 336  
Val Gln Phe Tyr Phe His Phe Ser Leu Gly Ser Thr Ser Phe Leu Ile  
100 105 110

ctg aca gac atg gcc ctt gat cgc ttt gtg gcc atc tgc cac cca ctg 384  
Leu Thr Asp Met Ala Leu Asp Arg Phe Val Ala Ile Cys His Pro Leu  
115 120 125

cgc tat ggc act ctg atg agc cgg gct atg tgt gtc cag ctg gct ggg 432  
Arg Tyr Gly Thr Leu Met Ser Arg Ala Met Cys Val Gln Leu Ala Gly  
130 135 140

gct gcc tgg gca gct cct ttc cta gcc atg gta ccc act gtc ctc tcc 480  
 Ala Ala Trp Ala Ala Pro Phe Leu Ala Met Val Pro Thr Val Leu Ser  
 145 150 155 160  
 cga gct cat ctt gat tac tgc cat ggc gac gtc atc aac cac ttc ttc 528  
 Arg Ala His Leu Asp Tyr Cys His Gly Asp Val Ile Asn His Phe Phe  
 165 170 175  
 tgt gac aat gaa cct ctc ctg cag ttg tca tgc tct gac act cgc ctg 576  
 Cys Asp Asn Glu Pro Leu Leu Gln Leu Ser Cys Ser Asp Thr Arg Leu  
 180 185 190  
 ttg gaa ttc tgg gac ttt ctg atg gcc ttg acc ttt gtc ctc agc tcc 624  
 Leu Glu Phe Trp Asp Phe Leu Met Ala Leu Thr Phe Val Leu Ser Ser  
 195 200 205  
 ttc ctg gtg acc ctc atc tcc tat ggc tac ata gtg acc act gtg ctg 672  
 Phe Leu Val Thr Leu Ile Ser Tyr Gly Tyr Ile Val Thr Thr Val Leu  
 210 215 220  
 cgg atc ccc tct gcc agc agc tgc cag aag gct ttc tcc act tgc ggg 720  
 Arg Ile Pro Ser Ala Ser Ser Cys Gln Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240  
 tct cac ctc aca ctg gtc ttc atc ggc tac agt agt acc atc ttt ctg 768  
 Ser His Leu Thr Leu Val Phe Ile Gly Tyr Ser Ser Thr Ile Phe Leu  
 245 250 255  
 tat gtc agg cct ggc aaa gct cac tct gtg caa gtc agg aag gtc gtg 816  
 Tyr Val Arg Pro Gly Lys Ala His Ser Val Gln Val Arg Lys Val Val  
 260 265 270  
 gcc ttg gtg act tca gtt ctc acc ccc ttt ctc aat ccc ttt atc ctt 864  
 Ala Leu Val Thr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Leu  
 275 280 285  
 acc ttc tgc aat cag aca gtt aaa aca gtg cta cag ggg cag atg cag 912  
 Thr Phe Cys Asn Gln Thr Val Lys Thr Val Leu Gln Gly Gln Met Gln  
 290 295 300  
 agg ctg aaa ggc ctt tgc aag gca caa tga 942  
 Arg Leu Lys Gly Leu Cys Lys Ala Gln  
 305 310

<210> 268  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 268

Met Ala Asn Leu Ser Gln Pro Ser Glu Phe Val Leu Leu Gly Phe Ser  
1 5 10 15

Ser Phe Gly Glu Leu Gln Ala Leu Leu Tyr Gly Pro Phe Leu Met Leu  
20 25 30

Tyr Leu Leu Ala Phe Met Gly Asn Thr Ile Ile Ile Val Met Val Ile  
 35 40 45

Ala Asp Thr His Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Phe  
 50 55 60

Ser Leu Leu Glu Ile Leu Val Thr Met Thr Ala Val Pro Arg Met Leu  
 65 70 75 80

Ser Asp Leu Leu Val Pro His Lys Val Ile Thr Phe Thr Gly Cys Met.  
 85 90 95

Val Gln Phe Tyr Phe His Phe Ser Leu Gly Ser Thr Ser Phe Leu Ile  
 100 105 110

Leu Thr Asp Met Ala Leu Asp Arg Phe Val Ala Ile Cys His Pro Leu  
 115 120 125

Arg Tyr Gly Thr Leu Met Ser Arg Ala Met Cys Val Gln Leu Ala Gly  
 130 135 140

Ala Ala Trp Ala Ala Pro Phe Leu Ala Met Val Pro Thr Val Leu Ser  
 145 150 155 160

Arg Ala His Leu Asp Tyr Cys His Gly Asp Val Ile Asn His Phe Phe  
 165 170 175

Cys Asp Asn Glu Pro Leu Leu Gln Leu Ser Cys Ser Asp Thr Arg Leu  
 180 185 190

Leu Glu Phe Trp Asp Phe Leu Met Ala Leu Thr Phe Val Leu Ser Ser  
 195 200 205

Phe Leu Val Thr Leu Ile Ser Tyr Gly Tyr Ile Val Thr Thr Val Leu  
 210 215 220

Arg Ile Pro Ser Ala Ser Ser Cys Gln Lys Ala Phe Ser Thr Cys Gly  
 225 230 235 240

Ser His Leu Thr Leu Val Phe Ile Gly Tyr Ser Ser Thr Ile Phe Leu  
 245 250 255

Tyr Val Arg Pro Gly Lys Ala His Ser Val Gln Val Arg Lys Val Val  
 260 265 270

Ala Leu Val Thr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Leu

275

280

285

Thr Phe Cys Asn Gln Thr Val Lys Thr Val Leu Gln Gly Gln Met Gln  
 290 295 300

Arg Leu Lys Gly Leu Cys Lys Ala Gln  
 305 310

<210> 269  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

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 <222> (1)..(930)  
 <223>

<400> 269  
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 Met Asp Asn His Ser Ser Ala Thr Glu Phe His Leu Leu Gly Phe Pro  
 1 5 10 15  
 ggg tcc caa gga cta cac cac att ctt ttt gct ata ttc ttt ttc ttc 96  
 Gly Ser Gln Gly Leu His His Ile Leu Phe Ala Ile Phe Phe Phe Phe  
 20 25 30  
 tat tta gtg aca tta atg gga aac acg gtc atc att gtg att gtc tgt 144  
 Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Val Ile Val Cys  
 35 40 45  
 gtg gat aaa cgt ctg cag tcc ccc atg tat ttc ttc ctc agc cac ctc 192  
 Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60  
 tct acc ctg gag atc ctg gtc aca acc ata att gtc ccc atg atg ctt 240  
 Ser Thr Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Met Met Leu  
 65 70 75 80  
 tgg gga ttg ctc ttc ctg gga tgc aga cag tat ctt tct cta cat gta 288  
 Trp Gly Leu Leu Phe Leu Gly Cys Arg Gln Tyr Leu Ser Leu His Val  
 85 90 95  
 tcg ctc aac ttt tcc tgt ggg acc atg gag ttt gca tta ctt gga gtg 336  
 Ser Leu Asn Phe Ser Cys Gly Thr Met Glu Phe Ala Leu Leu Gly Val  
 100 105 110  
 atg gct gtg gac cgt tat gtg gct gtg tgt aac cct ttg agg tac aac 384  
 Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn Pro Leu Arg Tyr Asn  
 115 120 125  
 atc att atg aac agc agt acc tgt att tgg gtg gta ata gtg tca tgg 432  
 Ile Ile Met Asn Ser Ser Thr Cys Ile Trp Val Val Ile Val Ser Trp  
 130 135 140  
 gtg ttt gga ttt ctt tct gaa atc tgg ccc atc tat gcc aca ttt cag 480  
 Val Phe Gly Phe Leu Ser Glu Ile Trp Pro Ile Tyr Ala Thr Phe Gln

145	150	155	160	
ttt acc ttc cgc aaa tca aat tca tta gac cat ttt tac tgt gac cga				528
Phe Thr Phe Arg Lys Ser Asn Ser Leu Asp His Phe Tyr Cys Asp Arg	165	170	175	
ggg caa ttg ctc aaa ctg tcc tgc gat aac act ctt ctc aca gag ttt				576
Gly Gln Leu Leu Lys Leu Ser Cys Asp Asn Thr Leu Leu Thr Glu Phe	180	185	190	
atc ctt ttc tta atg gct gtt ttt att ctc att ggt tct ttg atc cct				624
Ile Leu Phe Leu Met Ala Val Phe Ile Leu Ile Gly Ser Leu Ile Pro	195	200	205	
acg att gtc tcc tac acc tac att atc tcc acc atc ctc aag atc ccg				672
Thr Ile Val Ser Tyr Thr Tyr Ile Ile Ser Thr Ile Leu Lys Ile Pro	210	215	220	
tca gcc tct ggc cgg agg aaa gcc ttc tcc act ttt gcc tcc cac ttc				720
Ser Ala Ser Gly Arg Arg Lys Ala Phe Ser Thr Phe Ala Ser His Phe	225	230	235	240
acc tgt gtt gtg att ggc tat ggc agc tgc ttg ttt ctc tac gtg aaa				768
Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu Phe Leu Tyr Val Lys	245	250	255	
ccc aag caa aca cag gga gtt gag tac aat aag ata gtt tcc ctg ttg				816
Pro Lys Gln Thr Gln Gly Val Glu Tyr Asn Lys Ile Val Ser Leu Leu	260	265	270	
gtt tct gtg tta acc ccc ttc ctg aat cct ttc atc ttt act ctt cgg				864
Val Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Phe Thr Leu Arg	275	280	285	
aat gac aaa gtc aaa gag gcc ctc cga gat ggg atg aaa cgc tgc tgt				912
Asn Asp Lys Val Lys Glu Ala Leu Arg Asp Gly Met Lys Arg Cys Cys	290	295	300	
caa ctc ctg aaa gat tag				930
Gln Leu Leu Lys Asp	305			

<210> 270  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 270

Met Asp Asn His Ser Ser Ala Thr Glu Phe His Leu Leu Gly Phe Pro			
1	5	10	15

Gly Ser Gln Gly Leu His His Ile Leu Phe Ala Ile Phe Phe Phe			
20	25	30	

Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Val Ile Val Cys			
35	40	45	

Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu  
 50 55 60

Ser Thr Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Met Met Leu  
 65 70 75 80

Trp Gly Leu Leu Phe Leu Gly Cys Arg Gln Tyr Leu Ser Leu His Val  
 85 90 95

Ser Leu Asn Phe Ser Cys Gly Thr Met Glu Phe Ala Leu Leu Gly Val  
 100 105 110

Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn Pro Leu Arg Tyr Asn  
 115 120 125

Ile Ile Met Asn Ser Ser Thr Cys Ile Trp Val Val Ile Val Ser Trp  
 130 135 140

Val Phe Gly Phe Leu Ser Glu Ile Trp Pro Ile Tyr Ala Thr Phe Gln  
 145 150 155 160

Phe Thr Phe Arg Lys Ser Asn Ser Leu Asp His Phe Tyr Cys Asp Arg  
 165 170 175

Gly Gln Leu Leu Lys Leu Ser Cys Asp Asn Thr Leu Leu Thr Glu Phe  
 180 185 190

Ile Leu Phe Leu Met Ala Val Phe Ile Leu Ile Gly Ser Leu Ile Pro  
 195 200 205

Thr Ile Val Ser Tyr Thr Tyr Ile Ile Ser Thr Ile Leu Lys Ile Pro  
 210 215 220

Ser Ala Ser Gly Arg Arg Lys Ala Phe Ser Thr Phe Ala Ser His Phe  
 225 230 235 240

Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu Phe Leu Tyr Val Lys  
 245 250 255

Pro Lys Gln Thr Gln Gly Val Glu Tyr Asn Lys Ile Val Ser Leu Leu  
 260 265 270

Val Ser Val Leu Thr Pro Phe Leu Asn Pro Phe Ile Phe Thr Leu Arg  
 275 280 285



Asn Asp Lys Val Lys Glu Ala Leu Arg Asp Gly Met Lys Arg Cys Cys  
 290 295 300

Gln Leu Leu Lys Asp  
 305

<210> 271  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(948)  
 <223>

<400> 271  
 atg cag ggg cta aac cac acc tcc gtg tct gaa ttc atc ctc gtt ggc 48  
 Met Gln Gly Leu Asn His Thr Ser Val Ser Glu Phe Ile Leu Val Gly  
 1 5 10 15  
 ttc tct gcc ttc ccc cac ctc cag ctg atg ctc ttc ctg ctg ttc ctg 96  
 Phe Ser Ala Phe Pro His Leu Gln Leu Met Leu Phe Leu Phe Leu  
 20 25 30  
 ctg atg tac ctg ttc acg ctg ctg ggc aac ctg ctc atc atg gcc act 144  
 Leu Met Tyr Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala Thr  
 35 40 45  
 gtc tgg agc gag cgc agc ctc cac atg ccc atg tac ctc ttc ctg tgt 192  
 Val Trp Ser Glu Arg Ser Leu His Met Pro Met Tyr Leu Phe Leu Cys  
 50 55 60  
 gcc ctc tcc atc acc gag atc ctc tac acc gtg gcc atc atc ccg cgc 240  
 Ala Leu Ser Ile Thr Glu Ile Leu Tyr Thr Val Ala Ile Ile Pro Arg  
 65 70 75 80  
 atg ctg gcc gac ctg ctg tcc acc cag cgc tcc atc gcc ttc ctg gcc 288  
 Met Leu Ala Asp Leu Leu Ser Thr Gln Arg Ser Ile Ala Phe Leu Ala  
 85 90 95  
 tgt gcc agt cag atg ttc ttc tcc ttc agc ttc ggc ttc acc cac tcc 336  
 Cys Ala Ser Gln Met Phe Phe Ser Phe Ser Phe Gly Phe Thr His Ser  
 100 105 110  
 ttc ctg ctc act gtc atg ggc tac gac cgc tac gtg gcc atc tgc cac 384  
 Phe Leu Leu Thr Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125  
 ccc ctg cgt tac aac gtg ctc atg agc ctg cgg ggc tgc acc tgc cgg 432  
 Pro Leu Arg Tyr Asn Val Leu Met Ser Leu Arg Gly Cys Thr Cys Arg  
 130 135 140  
 gtg ggc tgc tcc tgg gct ggt ggc ttg gtc atg ggg atg gtg gtg acc 480  
 Val Gly Cys Ser Trp Ala Gly Gly Leu Val Met Gly Met Val Val Thr  
 145 150 155 160  
 tcg gcc att ttc cac ctc gcc ttc tgt gga cac aag gag atc cac cat 528

Ser Ala Ile Phe His Leu Ala Phe Cys Gly His Lys Glu Ile His His  
 165 170 175  
 ttc ttc tgc cac gtg cca cct ctg ttg aag ttg gcc tgt gga gat gat 576  
 Phe Phe Cys His Val Pro Pro Leu Leu Lys Leu Ala Cys Gly Asp Asp  
 180 185 190  
 gtg ctg gtg gtg gcc aaa ggc gtg ggc ttg gtg tgt atc acg gcc ctg 624  
 Val Leu Val Val Ala Lys Gly Val Gly Leu Val Cys Ile Thr Ala Leu  
 195 200 205  
 ctg ggc tgt ttt ctc ctc atc ctc ctc tcc tat gcc ttc atc gtg gcc 672  
 Leu Gly Cys Phe Leu Leu Ile Leu Leu Ser Tyr Ala Phe Ile Val Ala  
 210 215 220  
 gcc atc ttg aag atc cct tct gct gaa ggt cgg aac aag gcc ttc tcc 720  
 Ala Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser  
 225 230 235 240  
 acc tgt gcc tct cac ctc act gtg gtg gtc gtg cac tat ggc ttt gcc 768  
 Thr Cys Ala Ser His Leu Thr Val Val Val Val His Tyr Gly Phe Ala  
 245 250 255  
 tcc gtc att tac ctg aag ccc aaa ggt ccc cag tct ccg gaa gga gac 816  
 Ser Val Ile Tyr Leu Lys Pro Lys Gly Pro Gln Ser Pro Glu Gly Asp  
 260 265 270  
 acc ttg atg ggc atc acc tac acg gtc ctc aca ccc ttc ctc agc ccc 864  
 Thr Leu Met Gly Ile Thr Tyr Thr Val Leu Thr Pro Phe Leu Ser Pro  
 275 280 285  
 atc atc ttc agc ctc agg aac aag gag ctg aag gtc gcc atg aag aag 912  
 Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Val Ala Met Lys Lys  
 290 295 300  
 act tgc ttc acc aaa ctc ttt cca cag aac tgc tga 948  
 Thr Cys Phe Thr Lys Leu Phe Pro Gln Asn Cys  
 305 310 315

<210> 272  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 272

Met Gln Gly Leu Asn His Thr Ser Val Ser Glu Phe Ile Leu Val Gly  
 1 5 10 15  
 Phe Ser Ala Phe Pro His Leu Gln Leu Met Leu Phe Leu Leu Phe Leu  
 20 25 30  
 Leu Met Tyr Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala Thr  
 35 40 45  
 Val Trp Ser Glu Arg Ser Leu His Met Pro Met Tyr Leu Phe Leu Cys  
 50 55 60

Ala Leu Ser Ile Thr Glu Ile Leu Tyr Thr Val Ala Ile Ile Pro Arg  
 65 70 75 80

Met Leu Ala Asp Leu Leu Ser Thr Gln Arg Ser Ile Ala Phe Leu Ala  
 85 90 95

Cys Ala Ser Gln Met Phe Phe Ser Phe Ser Phe Gly Phe Thr His Ser  
 100 105 110

Phe Leu Leu Thr Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Asn Val Leu Met Ser Leu Arg Gly Cys Thr Cys Arg  
 130 135 140

Val Gly Cys Ser Trp Ala Gly Gly Leu Val Met Gly Met Val Val Thr  
 145 150 155 160

Ser Ala Ile Phe His Leu Ala Phe Cys Gly His Lys Glu Ile His His  
 165 170 175

Phe Phe Cys His Val Pro Pro Leu Leu Lys Leu Ala Cys Gly Asp Asp  
 180 185 190

Val Leu Val Val Ala Lys Gly Val Gly Leu Val Cys Ile Thr Ala Leu  
 195 200 205

Leu Gly Cys Phe Leu Leu Ile Leu Leu Ser Tyr Ala Phe Ile Val Ala  
 210 215 220

Ala Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Val Val Val Val His Tyr Gly Phe Ala  
 245 250 255

Ser Val Ile Tyr Leu Lys Pro Lys Gly Pro Gln Ser Pro Glu Gly Asp  
 260 265 270

Thr Leu Met Gly Ile Thr Tyr Thr Val Leu Thr Pro Phe Leu Ser Pro  
 275 280 285

Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Val Ala Met Lys Lys  
 290 295 300

Thr Cys Phe Thr Lys Leu Phe Pro Gln Asn Cys  
305 310 315

<210> 273  
<211> 936  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (933)  
<223>

<400> 273  
atg gaa aaa ata aac aac gta act gaa ttc att ttc tgg ggt ctt tct 48  
Met Glu Lys Ile Asn Asn Val Thr Glu Phe Ile Phe Trp Gly Leu Ser  
1 5 10 15  
cag agc cca gag att gag aaa gtt tgt ttt gtg gtg ttt tct ttc ttc 96  
Gln Ser Pro Glu Ile Glu Lys Val Cys Phe Val Val Phe Ser Phe Phe  
20 25 30  
tac ata atc att ctt ctg gga aat ctc ctc atc atg ctg aca gtt tgc 144  
Tyr Ile Ile Ile Leu Leu Gly Asn Leu Leu Ile Met Leu Thr Val Cys  
35 40 45  
ctg agc aac ctg ttt aag tca ccc atg tat ttc ttt ctc agc ttc ttg 192  
Leu Ser Asn Leu Phe Lys Ser Pro Met Tyr Phe Phe Leu Ser Phe Leu  
50 55 60  
tct ttt gtg gac att tgt tac tct tca gtc aca gct ccc aag atg att 240  
Ser Phe Val Asp Ile Cys Tyr Ser Ser Val Thr Ala Pro Lys Met Ile  
65 70 75 80  
gtt gac ctg tta gca aag gac aaa acc atc tcc tat gtg ggg tgc atg 288  
Val Asp Leu Leu Ala Lys Asp Lys Thr Ile Ser Tyr Val Gly Cys Met  
85 90 95  
ttg caa ctg ctt gga gta cat ttc ttt ggt tgc act gag atc ttc atc 336  
Leu Gln Leu Leu Gly Val His Phe Phe Gly Cys Thr Glu Ile Phe Ile  
100 105 110  
ctt act gta atg gcc tat gat cgt tat gtg gct atc tgt aaa ccc cta 384  
Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
115 120 125  
cat tat atg acc atc atg aac cgg gag aca tgc aat aaa atg tta tta 432  
His Tyr Met Thr Ile Met Asn Arg Glu Thr Cys Asn Lys Met Leu Leu  
130 135 140  
ggg acg tgg gta ggt ggg ttc tta cac tcc att atc caa gtg gct ctg 480  
Gly Thr Trp Val Gly Gly Phe Leu His Ser Ile Ile Gln Val Ala Leu  
145 150 155 160  
gta gtc caa cta ccc ttt tgt gga ccc aat gag ata gat cac tac ttt 528  
Val Val Gln Leu Pro Phe Cys Gly Pro Asn Glu Ile Asp His Tyr Phe  
165 170 175

tgt gat gtt cac cct gtg ttg aaa ctt gcc tgc aca gaa aca tac att 576  
 Cys Asp Val His Pro Val Leu Lys Leu Ala Cys Thr Glu Thr Tyr Ile  
 180 185 190

gtt ggt gtt gtt gtg aca gcc aac agt ggt acc att gct ctg ggg agt 624  
 Val Gly Val Val Val Thr Ala Asn Ser Gly Thr Ile Ala Leu Gly Ser  
 195 200 205

ttt gtt atc ttg cta atc tcc tac agc atc atc cta gtt tcc ctg aga 672  
 Phe Val Ile Leu Leu Ile Ser Tyr Ser Ile Ile Leu Val Ser Leu Arg  
 210 215 220

aag cag tca gca gaa ggc agg cgc aaa gcc ctc tcc acc tgt ggc tcc 720  
 Lys Gln Ser Ala Glu Gly Arg Arg Lys Ala Leu Ser Thr Cys Gly Ser  
 225 230 235 240

cac att gcc atg gtc gtt atc ttt ttc ggc ccc tgt act ttt atg tac 768  
 His Ile Ala Met Val Val Ile Phe Phe Gly Pro Cys Thr Phe Met Tyr  
 245 250 255

atg cgc cct gat acg acc ttt tca gag gat aag atg gtg gct gta ttt 816  
 Met Arg Pro Asp Thr Thr Phe Ser Glu Asp Lys Met Val Ala Val Phe  
 260 265 270

tac acc att atc act ccc atg tta aat cct ctg att tat aca ctg aga 864  
 Tyr Thr Ile Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285

aat gca gaa gta aag aat gca atg aag aaa ctg tgg ggc aga aat gtt 912  
 Asn Ala Glu Val Lys Asn Ala Met Lys Lys Leu Trp Gly Arg Asn Val  
 290 295 300

ttc ttg gag gct aaa ggg aaa tag 936  
 Phe Leu Glu Ala Lys Gly Lys  
 305 310

<210> 274  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 274

Met Glu Lys Ile Asn Asn Val Thr Glu Phe Ile Phe Trp Gly Leu Ser  
 1 5 10 15

Gln Ser Pro Glu Ile Glu Lys Val Cys Phe Val Val Phe Ser Phe Phe  
 20 25 30

Tyr Ile Ile Ile Leu Leu Gly Asn Leu Leu Ile Met Leu Thr Val Cys  
 35 40 45

Leu Ser Asn Leu Phe Lys Ser Pro Met Tyr Phe Phe Leu Ser Phe Leu  
 50 55 60

Ser Phe Val Asp Ile Cys Tyr Ser Ser Val Thr Ala Pro Lys Met Ile

65					70					75				80
Val	Asp	Leu	Leu	Ala	Lys	Asp	Lys	Thr	Ile	Ser	Tyr	Val	Gly	Cys Met
				85					90					95
Leu	Gln	Leu	Leu	Gly	Val	His	Phe	Phe	Gly	Cys	Thr	Glu	Ile	Phe Ile
			100					105					110	
Leu	Thr	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro Leu
		115					120					125		
His	Tyr	Met	Thr	Ile	Met	Asn	Arg	Glu	Thr	Cys	Asn	Lys	Met	Leu Leu
	130					135					140			
Gly	Thr	Trp	Val	Gly	Gly	Phe	Leu	His	Ser	Ile	Ile	Gln	Val	Ala Leu
145					150					155				160
Val	Val	Gln	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Glu	Ile	Asp	His	Tyr Phe
				165					170					175
Cys	Asp	Val	His	Pro	Val	Leu	Lys	Leu	Ala	Cys	Thr	Glu	Thr	Tyr Ile
			180					185					190	
Val	Gly	Val	Val	Val	Thr	Ala	Asn	Ser	Gly	Thr	Ile	Ala	Leu	Gly Ser
		195					200					205		
Phe	Val	Ile	Leu	Leu	Ile	Ser	Tyr	Ser	Ile	Ile	Leu	Val	Ser	Leu Arg
	210					215					220			
Lys	Gln	Ser	Ala	Glu	Gly	Arg	Arg	Lys	Ala	Leu	Ser	Thr	Cys	Gly Ser
225					230					235				240
His	Ile	Ala	Met	Val	Val	Ile	Phe	Phe	Gly	Pro	Cys	Thr	Phe	Met Tyr
				245					250					255
Met	Arg	Pro	Asp	Thr	Thr	Phe	Ser	Glu	Asp	Lys	Met	Val	Ala	Val Phe
			260					265					270	
Tyr	Thr	Ile	Ile	Thr	Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr	Thr	Leu Arg
		275					280					285		
Asn	Ala	Glu	Val	Lys	Asn	Ala	Met	Lys	Lys	Leu	Trp	Gly	Arg	Asn Val
	290					295					300			
Phe	Leu	Glu	Ala	Lys	Gly	Lys								
305					310									

<210> 275  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (927)  
 <223>

<400> 275  
 atg aat cac tct gtg gta tca gaa ttt gta ttc atg gga ctc acc aac 48  
 Met Asn His Ser Val Val Ser Glu Phe Val Phe Met Gly Leu Thr Asn  
 1 5 10 15  
 tca cgg gag att cag ctt cta ctt ttt gtt ttc tct ttg ttg ttc tac 96  
 Ser Arg Glu Ile Gln Leu Leu Leu Phe Val Phe Ser Leu Leu Phe Tyr  
 20 25 30  
 ttt gcg agc atg atg gga aac ctt gtc att gta ttc act gta acc atg 144  
 Phe Ala Ser Met Met Gly Asn Leu Val Ile Val Phe Thr Val Thr Met  
 35 40 45  
 gat gct cat ctg cac tcc ccc atg tat ttc ctc ctg gct aac ctc tca 192  
 Asp Ala His Leu His Ser Pro Met Tyr Phe Leu Leu Ala Asn Leu Ser  
 50 55 60  
 atc att gat atg gca ttt tgc tca att aca gcc cct aag atg att tgt 240  
 Ile Ile Asp Met Ala Phe Cys Ser Ile Thr Ala Pro Lys Met Ile Cys  
 65 70 75 80  
 gat att ttc aag aag cac aag gcc atc tcc ttt cgg gga tgt att act 288  
 Asp Ile Phe Lys Lys His Lys Ala Ile Ser Phe Arg Gly Cys Ile Thr  
 85 90 95  
 cag atc ttc ttt agc cat gct ctt ggg ggc act gag atg gtg ctg ctc 336  
 Gln Ile Phe Phe Ser His Ala Leu Gly Gly Thr Glu Met Val Leu Leu  
 100 105 110  
 ata gcc atg gcc ttt gac aga tac atg gcc ata tgt aaa cct ctc cac 384  
 Ile Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Lys Pro Leu His  
 115 120 125  
 tac ctg acc atc atg agc cca aga atg tgt cta tac ttt tta gcc act 432  
 Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Tyr Phe Leu Ala Thr  
 130 135 140  
 tcc tct atc att ggc ctt atc cac tca ttg gtc caa tta gtt ttt gtg 480  
 Ser Ser Ile Ile Gly Leu Ile His Ser Leu Val Gln Leu Val Phe Val  
 145 150 155 160  
 gta gat tta cct ttt tgt ggt cct aat atc ttt gac agt ttt tac tgt 528  
 Val Asp Leu Pro Phe Cys Gly Pro Asn Ile Phe Asp Ser Phe Tyr Cys  
 165 170 175  
 gat ctc cct cgg ctc ctc aga ctt gcc tgt acc aac acc caa gaa ctg 576  
 Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asn Thr Gln Glu Leu  
 180 185 190

gag ttc atg gtc act gtc aat agt gga ctc att tct gtg ggc tcc ttt 624  
 Glu Phe Met Val Thr Val Asn Ser Gly Leu Ile Ser Val Gly Ser Phe  
 195 200 205  
  
 gtc ttg ctg gta att tcc tac atc ttc att ctg ttc act gtt tgg aaa 672  
 Val Leu Leu Val Ile Ser Tyr Ile Phe Ile Leu Phe Thr Val Trp Lys  
 210 215 220  
  
 cat tct tct ggt ggt cta gcc aag gcc ctc tct acc ctg tca gct cat 720  
 His Ser Ser Gly Gly Leu Ala Lys Ala Leu Ser Thr Leu Ser Ala His  
 225 230 235 240  
  
 gtc act gtg gtc atc ttg ttc ttt ggg cca ctg atg ttt ttc tac aca 768  
 Val Thr Val Val Ile Leu Phe Phe Gly Pro Leu Met Phe Phe Tyr Thr  
 245 250 255  
  
 tgg cct tct ccc aca tca cac ctg gat aaa tat ctt gct att ttt gat 816  
 Trp Pro Ser Pro Thr Ser His Leu Asp Lys Tyr Leu Ala Ile Phe Asp  
 260 265 270  
  
 gca ttt att act cct ttt ctg aat cca gtt atc tac aca ttc agg aac 864  
 Ala Phe Ile Thr Pro Phe Leu Asn Pro Val Ile Tyr Thr Phe Arg Asn  
 275 280 285  
  
 aaa gac atg aaa gtg gca atg agg aga ctg tgc agt cgt ctt gcg cat 912  
 Lys Asp Met Lys Val Ala Met Arg Arg Leu Cys Ser Arg Leu Ala His  
 290 295 300  
  
 ttt aca aag att ttg taa 930  
 Phe Thr Lys Ile Leu  
 305

<210> 276  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 276

Met Asn His Ser Val Val Ser Glu Phe Val Phe Met Gly Leu Thr Asn  
 1 5 10 15  
  
 Ser Arg Glu Ile Gln Leu Leu Leu Phe Val Phe Ser Leu Leu Phe Tyr  
 20 25 30  
  
 Phe Ala Ser Met Met Gly Asn Leu Val Ile Val Phe Thr Val Thr Met  
 35 40 45  
  
 Asp Ala His Leu His Ser Pro Met Tyr Phe Leu Leu Ala Asn Leu Ser  
 50 55 60  
  
 Ile Ile Asp Met Ala Phe Cys Ser Ile Thr Ala Pro Lys Met Ile Cys  
 65 70 75 80



Asp Ile Phe Lys Lys His Lys Ala Ile Ser Phe Arg Gly Cys Ile Thr  
85 90 95

Gln Ile Phe Phe Ser His Ala Leu Gly Gly Thr Glu Met Val Leu Leu  
100 105 110

Ile Ala Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Lys Pro Leu His  
115 120 125

Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Tyr Phe Leu Ala Thr  
130 135 140

Ser Ser Ile Ile Gly Leu Ile His Ser Leu Val Gln Leu Val Phe Val  
145 150 155 160

Val Asp Leu Pro Phe Cys Gly Pro Asn Ile Phe Asp Ser Phe Tyr Cys  
165 170 175

Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asn Thr Gln Glu Leu  
180 185 190

Glu Phe Met Val Thr Val Asn Ser Gly Leu Ile Ser Val Gly Ser Phe  
195 200 205

Val Leu Leu Val Ile Ser Tyr Ile Phe Ile Leu Phe Thr Val Trp Lys  
210 215 220

His Ser Ser Gly Gly Leu Ala Lys Ala Leu Ser Thr Leu Ser Ala His  
225 230 235 240

Val Thr Val Val Ile Leu Phe Phe Gly Pro Leu Met Phe Phe Tyr Thr  
245 250 255

Trp Pro Ser Pro Thr Ser His Leu Asp Lys Tyr Leu Ala Ile Phe Asp  
260 265 270

Ala Phe Ile Thr Pro Phe Leu Asn Pro Val Ile Tyr Thr Phe Arg Asn  
275 280 285

Lys Asp Met Lys Val Ala Met Arg Arg Leu Cys Ser Arg Leu Ala His  
290 295 300

Phe Thr Lys Ile Leu  
305

<210> 277

<211> 876  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(873)  
 <223>

<400> 277  
 atg gtt ggg gca aat cac tcc gtg gtg tca gag ttt gtg ttc ctg gga 48  
 Met Val Gly Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly  
 1 5 10 15  
 ctc acc aat tcc tgg gag atc cga ctt ctc ctc ctt gtg ttc tcc tcc 96  
 Leu Thr Asn Ser Trp Glu Ile Arg Leu Leu Leu Leu Val Phe Ser Ser  
 20 25 30  
 atg ttt tac atg gcc agt atg atg gga aac tct ctc att ttg ctc act 144  
 Met Phe Tyr Met Ala Ser Met Met Gly Asn Ser Leu Ile Leu Leu Thr  
 35 40 45  
 gtg act tct gac cct cac ttg cac tcc ccc atg tat ttt ctg tta gcc 192  
 Val Thr Ser Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60  
 aac ctc tcc ttc att gac ctg ggt gtt tcc tct gtc act tct ccc aaa 240  
 Asn Leu Ser Phe Ile Asp Leu Gly Val Ser Ser Val Thr Ser Pro Lys  
 65 70 75 80  
 atg att tat gac ctg ttc aga aag cac gaa gtc atc tcc ttt gga ggc 288  
 Met Ile Tyr Asp Leu Phe Arg Lys His Glu Val Ile Ser Phe Gly Gly  
 85 90 95  
 tgc atc gct caa atc ttc ttc atc cac gtc att ggc ggt gtg gag atg 336  
 Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met  
 100 105 110  
 gtg ctg ctc ata gcc atg gcc ttt gac aga tat gtg gcc ata tgt aag 384  
 Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125  
 ccc ctc cag tac ctg acc att atg agc cca aga atg tgc atg ttc ttc 432  
 Pro Leu Gln Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Met Phe Phe  
 130 135 140  
 tta gtg gct gcc tgg gtg acc ggc ctt atc cac tct gta gtt caa ttg 480  
 Leu Val Ala Ala Trp Val Thr Gly Leu Ile His Ser Val Val Gln Leu  
 145 150 155 160  
 gtt ttt gta gta aac ttg ccc ttc tgt ggt cct aat gta tcg gac agc 528  
 Val Phe Val Val Asn Leu Pro Phe Cys Gly Pro Asn Val Ser Asp Ser  
 165 170 175  
 ttt tac tgt gac ctt cct cgg ttc atc aaa ctt gcc tgc aca gac agc 576  
 Phe Tyr Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Thr Asp Ser  
 180 185 190  
 tac cga ctg gag ttc atg gtt aca gcc aac agt gga ttc atc tct ctg 624  
 Tyr Arg Leu Glu Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu

195	200	205	
ggc tcc ttc ttc ata ctg atc att tcc tat gtg gtc atc att ctc act			672
Gly Ser Phe Phe Ile Leu Ile Ile Ser Tyr Val Val Ile Ile Leu Thr			
210	215	220	
ggt ctg aaa cac tct tca gct ggt tta tcc aag gct ctg tcc acc ctt			720
Val Leu Lys His Ser Ser Ala Gly Leu Ser Lys Ala Leu Ser Thr Leu			
225	230	235	240
tca gct cac gtc agt gtg gta gtt ttg ttc ttt ggt cct ttg att ttt			768
Ser Ala His Val Ser Val Val Val Leu Phe Phe Gly Pro Leu Ile Phe			
	245	250	255
gtc tat acg tgg cca tct ccc tcc aca cac ctg gat aag ttt ctg gcc			816
Val Tyr Thr Trp Pro Ser Pro Ser Thr His Leu Asp Lys Phe Leu Ala			
	260	265	270
atc ttt gat gca gtt ctc act cct gtt tta aat cct atc atc tac aca			864
Ile Phe Asp Ala Val Leu Thr Pro Val Leu Asn Pro Ile Ile Tyr Thr			
	275	280	285
ttc agg aat tga			876
Phe Arg Asn			
290			

<210> 278  
 <211> 291  
 <212> PRT  
 <213> Homo Sapiens

<400> 278

Met Val Gly Ala Asn His Ser Val Val Ser Glu Phe Val Phe Leu Gly			
1	5	10	15
Leu Thr Asn Ser Trp Glu Ile Arg Leu Leu Leu Val Phe Ser Ser			
	20	25	30
Met Phe Tyr Met Ala Ser Met Met Gly Asn Ser Leu Ile Leu Leu Thr			
	35	40	45
Val Thr Ser Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala			
	50	55	60
Asn Leu Ser Phe Ile Asp Leu Gly Val Ser Ser Val Thr Ser Pro Lys			
65	70	75	80
Met Ile Tyr Asp Leu Phe Arg Lys His Glu Val Ile Ser Phe Gly Gly			
	85	90	95
Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met			
	100	105	110

Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

Pro Leu Gln Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Met Phe Phe  
 130 135 140

Leu Val Ala Ala Trp Val Thr Gly Leu Ile His Ser Val Val Gln Leu  
 145 150 155 160

Val Phe Val Val Asn Leu Pro Phe Cys Gly Pro Asn Val Ser Asp Ser  
 165 170 175

Phe Tyr Cys Asp Leu Pro Arg Phe Ile Lys Leu Ala Cys Thr Asp Ser  
 180 185 190

Tyr Arg Leu Glu Phe Met Val Thr Ala Asn Ser Gly Phe Ile Ser Leu  
 195 200 205

Gly Ser Phe Phe Ile Leu Ile Ile Ser Tyr Val Val Ile Ile Leu Thr  
 210 215 220

Val Leu Lys His Ser Ser Ala Gly Leu Ser Lys Ala Leu Ser Thr Leu  
 225 230 235 240

Ser Ala His Val Ser Val Val Val Leu Phe Phe Gly Pro Leu Ile Phe  
 245 250 255

Val Tyr Thr Trp Pro Ser Pro Ser Thr His Leu Asp Lys Phe Leu Ala  
 260 265 270

Ile Phe Asp Ala Val Leu Thr Pro Val Leu Asn Pro Ile Ile Tyr Thr  
 275 280 285

Phe Arg Asn  
 290

<210> 279  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)  
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<400> 279

atg cct agt cag aac tat agc atc ata tct gaa ttt aac ctc ttt ggc	48
Met Pro Ser Gln Asn Tyr Ser Ile Ile Ser Glu Phe Asn Leu Phe Gly	
1 5 10 15	
ttc tca gcc ttc ccc cag cac ctc ctg ccc atc ttg ttc ctg ctg tac	96
Phe Ser Ala Phe Pro Gln His Leu Leu Pro Ile Leu Phe Leu Leu Tyr	
20 25 30	
ctc ctg atg ttc ctg ttc aca ttg ctg ggc aac ctt ctc atc atg gcc	144
Leu Leu Met Phe Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala	
35 40 45	
aca atc tgg att gaa cac aga ctc cac aca ccc atg tac ctc ttc ttg	192
Thr Ile Trp Ile Glu His Arg Leu His Thr Pro Met Tyr Leu Phe Leu	
50 55 60	
tgc acc ctc tcc gtc tct gag att ctg ttc act gtt gcc atc acc cct	240
Cys Thr Leu Ser Val Ser Glu Ile Leu Phe Thr Val Ala Ile Thr Pro	
65 70 75 80	
cgc atg ctg gct gat ctg ctt tcc acc cat cat tcc atc acc ttt gtg	288
Arg Met Leu Ala Asp Leu Leu Ser Thr His His Ser Ile Thr Phe Val	
85 90 95	
gct tgt gcc aac cag atg ttc ttc tcc ttc atg ttt ggc ttc act cac	336
Ala Cys Ala Asn Gln Met Phe Phe Ser Phe Met Phe Gly Phe Thr His	
100 105 110	
tcc ttc ctt ctc ctg gtc atg ggc tat gat cgc tat gtg gcc atc tgc	384
Ser Phe Leu Leu Leu Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys	
115 120 125	
cac cca ctg cgt tac aat gtg ctc atg agc ccc cgt gac tgt gcc cat	432
His Pro Leu Arg Tyr Asn Val Leu Met Ser Pro Arg Asp Cys Ala His	
130 135 140	
ctt gtg gcc tgt acc tgg gct ggt ggc tca gtc atg ggg atg atg gtg	480
Leu Val Ala Cys Thr Trp Ala Gly Gly Ser Val Met Gly Met Met Val	
145 150 155 160	
aca acg ata gtt ttc cac ctc act ttc tgt ggg tct aat gtg atc cac	528
Thr Thr Ile Val Phe His Leu Thr Phe Cys Gly Ser Asn Val Ile His	
165 170 175	
cat ttt ttc tgt cat gtg ctt tcc ctc ttg aag ttg gcc tgt gaa aac	576
His Phe Phe Cys His Val Leu Ser Leu Leu Lys Leu Ala Cys Glu Asn	
180 185 190	
aag aca tca tct gtc atc atg ggt gtg atg ctg gtg tgt gtc aca gcc	624
Lys Thr Ser Ser Val Ile Met Gly Val Met Leu Val Cys Val Thr Ala	
195 200 205	
ctg ata ggc tgt tta ttc ctc atc atc ctc tcc tat gtc ttc att gtg	672
Leu Ile Gly Cys Leu Phe Leu Ile Ile Leu Ser Tyr Val Phe Ile Val	
210 215 220	
gct gcc atc ttg agg att ccc tct gcc gaa ggc cgg cac aag aca ttt	720
Ala Ala Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg His Lys Thr Phe	
225 230 235 240	
tct acg tgt gta tcc cac ctc act gtg gtg gtc acg cac tat agt ttt	768

Ser Thr Cys Val Ser His Leu Thr Val Val Val Thr His Tyr Ser Phe  
 245 250 255

gcc tcc ttt atc tac ctc aag ccc aag ggc ctc cat tct atg tac agt 816  
 Ala Ser Phe Ile Tyr Leu Lys Pro Lys Gly Leu His Ser Met Tyr Ser  
 260 265 270

gac gcc ttg atg gcc acc acc tat act gtc ttc acc ccc ttc ctt agc 864  
 Asp Ala Leu Met Ala Thr Thr Tyr Thr Val Phe Thr Pro Phe Leu Ser  
 275 280 285

cca atc att ttc agc cta agg aac aag gag ctg aag aat gcc ata aat 912  
 Pro Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Asn Ala Ile Asn  
 290 295 300

aaa aac ttt tac aga aaa ttc tgt cct cca agt tcc tga 951  
 Lys Asn Phe Tyr Arg Lys Phe Cys Pro Pro Ser Ser  
 305 310 315

<210> 280  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 280

Met Pro Ser Gln Asn Tyr Ser Ile Ile Ser Glu Phe Asn Leu Phe Gly  
 1 5 10 15

Phe Ser Ala Phe Pro Gln His Leu Leu Pro Ile Leu Phe Leu Leu Tyr  
 20 25 30

Leu Leu Met Phe Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala  
 35 40 45

Thr Ile Trp Ile Glu His Arg Leu His Thr Pro Met Tyr Leu Phe Leu  
 50 55 60

Cys Thr Leu Ser Val Ser Glu Ile Leu Phe Thr Val Ala Ile Thr Pro  
 65 70 75 80

Arg Met Leu Ala Asp Leu Leu Ser Thr His His Ser Ile Thr Phe Val  
 85 90 95

Ala Cys Ala Asn Gln Met Phe Phe Ser Phe Met Phe Gly Phe Thr His  
 100 105 110

Ser Phe Leu Leu Leu Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys  
 115 120 125

His Pro Leu Arg Tyr Asn Val Leu Met Ser Pro Arg Asp Cys Ala His  
 130 135 140

Leu Val Ala Cys Thr Trp Ala Gly Gly Ser Val Met Gly Met Met Val  
145 150 155 160

Thr Thr Ile Val Phe His Leu Thr Phe Cys Gly Ser Asn Val Ile His  
165 170 175

His Phe Phe Cys His Val Leu Ser Leu Leu Lys Leu Ala Cys Glu Asn  
180 185 190

Lys Thr Ser Ser Val Ile Met Gly Val Met Leu Val Cys Val Thr Ala  
195 200 205

Leu Ile Gly Cys Leu Phe Leu Ile Ile Leu Ser Tyr Val Phe Ile Val  
210 215 220

Ala Ala Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg His Lys Thr Phe  
225 230 235 240

Ser Thr Cys Val Ser His Leu Thr Val Val Val Thr His Tyr Ser Phe  
245 250 255

Ala Ser Phe Ile Tyr Leu Lys Pro Lys Gly Leu His Ser Met Tyr Ser  
260 265 270

Asp Ala Leu Met Ala Thr Thr Tyr Thr Val Phe Thr Pro Phe Leu Ser  
275 280 285

Pro Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Asn Ala Ile Asn  
290 295 300

Lys Asn Phe Tyr Arg Lys Phe Cys Pro Pro Ser Ser  
305 310 315

<210> 281  
<211> 975  
<212> DNA  
<213> Homo Sapiens

<220>  
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<222> (1) .. (972)  
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<400> 281  
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Met Leu Glu Ser Asn Tyr Thr Met Pro Thr Glu Phe Leu Phe Val Gly  
1 5 10 15

48

ttc aca gat tat cta cct ctc aga gtc aca ctg ttc ttg gta ttc ctt	96
Phe Thr Asp Tyr Leu Pro Leu Arg Val Thr Leu Phe Leu Val Phe Leu	
20 25 30	
ctg gta tat aca tta act atg gtc gga aat ata ctc tta ata att cta	144
Leu Val Tyr Thr Leu Thr Met Val Gly Asn Ile Leu Leu Ile Ile Leu	
35 40 45	
gtt aat att aat tca agc ctt caa att ccc atg tat tat ttt ctt agc	192
Val Asn Ile Asn Ser Ser Leu Gln Ile Pro Met Tyr Tyr Phe Leu Ser	
50 55 60	
aac tta tct ttc tta gac atc agc tgt tct aca gca atc act cct aaa	240
Asn Leu Ser Phe Leu Asp Ile Ser Cys Ser Thr Ala Ile Thr Pro Lys	
65 70 75 80	
atg ctg gca aac ttc ttg gca tcc agg aaa agc atc tct cct tat ggg	288
Met Leu Ala Asn Phe Leu Ala Ser Arg Lys Ser Ile Ser Pro Tyr Gly	
85 90 95	
tgt gca cta caa atg ttt ttc ttc gct tct ttt gct gat gct gag tgc	336
Cys Ala Leu Gln Met Phe Phe Phe Ala Ser Phe Ala Asp Ala Glu Cys	
100 105 110	
ctt atc ctg gca gca atg gct tat gac cgc tat gca gcc atc tgc aac	384
Leu Ile Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn	
115 120 125	
cca ctg ctc tat act aca ctg atg tct agg aga gtc tgt gtc tgc ttc	432
Pro Leu Leu Tyr Thr Thr Leu Met Ser Arg Arg Val Cys Val Cys Phe	
130 135 140	
att gtg ttg gca tat ttc agt gga agt aca aca tca ctg gtc cat gtg	480
Ile Val Leu Ala Tyr Phe Ser Gly Ser Thr Thr Ser Leu Val His Val	
145 150 155 160	
tgc ctc aca ttc agg ctg tca ttt tgt ggc tcc aat atc gtc aat cat	528
Cys Leu Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Ile Val Asn His	
165 170 175	
ttt ttc tgt gat atc cca cct ctt ctg gct tta tca tgt aca gac act	576
Phe Phe Cys Asp Ile Pro Pro Leu Leu Ala Leu Ser Cys Thr Asp Thr	
180 185 190	
cag atc aac cag ctt ctg ctc ttt gct ttg tgc agc ttc atc cag acc	624
Gln Ile Asn Gln Leu Leu Leu Phe Ala Leu Cys Ser Phe Ile Gln Thr	
195 200 205	
agc act ttt gtg gta ata ttt att tct tac ttc tgc atc ctc atc act	672
Ser Thr Phe Val Val Ile Phe Ile Ser Tyr Phe Cys Ile Leu Ile Thr	
210 215 220	
gtg ttg agc atc aag tcc tca ggt ggc aga agc aaa aca ttc tcc act	720
Val Leu Ser Ile Lys Ser Ser Gly Gly Arg Ser Lys Thr Phe Ser Thr	
225 230 235 240	
tgt gct tcc cac ctc ata gca gtc acc tta ttc tat gga gcg ctc ctg	768
Cys Ala Ser His Leu Ile Ala Val Thr Leu Phe Tyr Gly Ala Leu Leu	
245 250 255	



ttt atg tac tta cag ccc acc act agc tat tcc cta gac act gat aag 816  
 Phe Met Tyr Leu Gln Pro Thr Thr Ser Tyr Ser Leu Asp Thr Asp Lys  
 260 265 270  
 gtg gtg gca gtg ttt tat act gtt gta ttt ccc atg ttt aat cca ata 864  
 Val Val Ala Val Phe Tyr Thr Val Val Phe Pro Met Phe Asn Pro Ile  
 275 280 285  
 att tat agt ttc aga aac aag gat gtg aaa aat gct ctc aaa aag cta 912  
 Ile Tyr Ser Phe Arg Asn Lys Asp Val Lys Asn Ala Leu Lys Lys Leu  
 290 295 300  
 tta gaa aga att gga tat tca aat gaa tgg tat tta aat cgt tta aga 960  
 Leu Glu Arg Ile Gly Tyr Ser Asn Glu Trp Tyr Leu Asn Arg Leu Arg  
 305 310 315 320  
 ata gtc aat atc taa 975  
 Ile Val Asn Ile

<210> 282  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 282

Met Leu Glu Ser Asn Tyr Thr Met Pro Thr Glu Phe Leu Phe Val Gly  
1 5 10 15

Phe Thr Asp Tyr Leu Pro Leu Arg Val Thr Leu Phe Leu Val Phe Leu  
20 25 30

Leu Val Tyr Thr Leu Thr Met Val Gly Asn Ile Leu Leu Ile Ile Leu  
35 40 45

Val Asn Ile Asn Ser Ser Leu Gln Ile Pro Met Tyr Tyr Phe Leu Ser  
50 55 60

Asn Leu Ser Phe Leu Asp Ile Ser Cys Ser Thr Ala Ile Thr Pro Lys  
65 70 75 80

Met Leu Ala Asn Phe Leu Ala Ser Arg Lys Ser Ile Ser Pro Tyr Gly  
85 90 95

Cys Ala Leu Gln Met Phe Phe Phe Ala Ser Phe Ala Asp Ala Glu Cys  
100 105 110

Leu Ile Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Thr Thr Leu Met Ser Arg Arg Val Cys Val Cys Phe

130                      135                      140  
 Ile Val Leu Ala Tyr Phe Ser Gly Ser Thr Thr Ser Leu Val His Val  
 145                      150                      155                      160  
 Cys Leu Thr Phe Arg Leu Ser Phe Cys Gly Ser Asn Ile Val Asn His  
 165                      170                      175  
 Phe Phe Cys Asp Ile Pro Pro Leu Leu Ala Leu Ser Cys Thr Asp Thr  
 180                      185                      190  
 Gln Ile Asn Gln Leu Leu Leu Phe Ala Leu Cys Ser Phe Ile Gln Thr  
 195                      200                      205  
 Ser Thr Phe Val Val Ile Phe Ile Ser Tyr Phe Cys Ile Leu Ile Thr  
 210                      215                      220  
 Val Leu Ser Ile Lys Ser Ser Gly Gly Arg Ser Lys Thr Phe Ser Thr  
 225                      230                      235                      240  
 Cys Ala Ser His Leu Ile Ala Val Thr Leu Phe Tyr Gly Ala Leu Leu  
 245                      250                      255  
 Phe Met Tyr Leu Gln Pro Thr Thr Ser Tyr Ser Leu Asp Thr Asp Lys  
 260                      265                      270  
 Val Val Ala Val Phe Tyr Thr Val Val Phe Pro Met Phe Asn Pro Ile  
 275                      280                      285  
 Ile Tyr Ser Phe Arg Asn Lys Asp Val Lys Asn Ala Leu Lys Lys Leu  
 290                      295                      300  
 Leu Glu Arg Ile Gly Tyr Ser Asn Glu Trp Tyr Leu Asn Arg Leu Arg  
 305                      310                      315                      320  
 Ile Val Asn Ile

<210> 283  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

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<400> 283
atg acc aga aaa aat tat acc tca ctg act gag ttc gtc cta ttg gga      48
Met Thr Arg Lys Asn Tyr Thr Ser Leu Thr Glu Phe Val Leu Leu Gly
1          5          10          15

tta gca gac acg ctg gag cta cag att atc ctc ttt ttg ttt ttt ctt      96
Leu Ala Asp Thr Leu Glu Leu Gln Ile Ile Leu Phe Leu Phe Phe Leu
          20          25          30

gtg att tat aca ctt aca gta ctg gga aat ctc ggg atg atc ctc tta      144
Val Ile Tyr Thr Leu Thr Val Leu Gly Asn Leu Gly Met Ile Leu Leu
          35          40          45

atc agg atc gat tcc cag ctt cac aca ccc atg tat ttc ttc ctg gct      192
Ile Arg Ile Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ala
          50          55          60

aac ctg tcc ttt gtg gac gtt tgt aac tca act acc atc acc cca aag      240
Asn Leu Ser Phe Val Asp Val Cys Asn Ser Thr Thr Ile Thr Pro Lys
65          70          75          80

atg ctg gca gat tta tta tca gag aag aaa acc atc tct ttt gct ggc      288
Met Leu Ala Asp Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly
          85          90          95

tgc ttc cta cag atg tac ttc ttt atc tcc ctg gcg aca acc gaa tgc      336
Cys Phe Leu Gln Met Tyr Phe Phe Ile Ser Leu Ala Thr Thr Glu Cys
          100          105          110

atc ctc ttt ggg tta atg gcc tat gac agg tat gcg gcc ata tgt cgc      384
Ile Leu Phe Gly Leu Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Arg
          115          120          125

ccg ctg ctt tac tcc ttg atc atg tcc agg acc gtc tac cta aaa atg      432
Pro Leu Leu Tyr Ser Leu Ile Met Ser Arg Thr Val Tyr Leu Lys Met
          130          135          140

gca gcc ggg gct ttt gct gca ggg ttg ctg aac ttc atg gtc aac aca      480
Ala Ala Gly Ala Phe Ala Ala Gly Leu Leu Asn Phe Met Val Asn Thr
145          150          155          160

agc cat gtc agc agc ttg tca ttc tgt gac tcc aat gtc atc cat cac      528
Ser His Val Ser Ser Leu Ser Phe Cys Asp Ser Asn Val Ile His His
          165          170          175

ttc ttc tgt gac agt ccc cca ctt ttc aag ctc tct tgt tct gac aca      576
Phe Phe Cys Asp Ser Pro Pro Leu Phe Lys Leu Ser Cys Ser Asp Thr
          180          185          190

atc ctg aaa gaa agc ata agt tct att ttg gct ggt gtg aat att gtg      624
Ile Leu Lys Glu Ser Ile Ser Ser Ile Leu Ala Gly Val Asn Ile Val
          195          200          205

ggg act ctg ctt gtc atc ctc tcc tcc tac tcc tac gtt ctc ttc tcc      672
Gly Thr Leu Leu Val Ile Leu Ser Ser Tyr Ser Tyr Val Leu Phe Ser
          210          215          220

att ttt tct atg cat tcg ggg gag ggg agg cac aga gct ttc tcc acg      720
Ile Phe Ser Met His Ser Gly Glu Gly Arg His Arg Ala Phe Ser Thr
225          230          235          240

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Pro Leu Leu Tyr Ser Leu Ile Met Ser Arg Thr Val Tyr Leu Lys Met  
 130 135 140

Ala Ala Gly Ala Phe Ala Ala Gly Leu Leu Asn Phe Met Val Asn Thr  
 145 150 155 160

Ser His Val Ser Ser Leu Ser Phe Cys Asp Ser Asn Val Ile His His  
 165 170 175

Phe Phe Cys Asp Ser Pro Pro Leu Phe Lys Leu Ser Cys Ser Asp Thr  
 180 185 190

Ile Leu Lys Glu Ser Ile Ser Ser Ile Leu Ala Gly Val Asn Ile Val  
 195 200 205

Gly Thr Leu Leu Val Ile Leu Ser Ser Tyr Ser Tyr Val Leu Phe Ser  
 210 215 220

Ile Phe Ser Met His Ser Gly Glu Gly Arg His Arg Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Ile Ile Leu Phe Tyr Ala Thr Cys Ile  
 245 250 255

Tyr Thr Tyr Leu Arg Pro Ser Ser Ser Tyr Ser Leu Asn Gln Asp Lys  
 260 265 270

Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Ser Lys Glu Val Lys Lys Ala Leu Ala Asn Val  
 290 295 300

Ile Ser Arg Lys Arg Thr Ser Ser Phe Leu  
 305 310

<210> 285  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)  
 <223>

<400> 285  
 atg gct cct gaa aat ttc acc agg gtc act gag ttt att ctc aca ggt

48

Met	Ala	Pro	Glu	Asn	Phe	Thr	Arg	Val	Thr	Glu	Phe	Ile	Leu	Thr	Gly		
1				5					10					15			
gtc	tct	agc	tgt	cca	gag	ctc	cag	att	ccc	ctc	ttc	ctg	gtc	ttc	cta		96
Val	Ser	Ser	Cys	Pro	Glu	Leu	Gln	Ile	Pro	Leu	Phe	Leu	Val	Phe	Leu		
			20				25						30				
gtg	ctc	tat	gtg	ctg	acc	atg	gca	ggg	aac	ctg	ggc	atc	atc	acc	ctc		144
Val	Leu	Tyr	Val	Leu	Thr	Met	Ala	Gly	Asn	Leu	Gly	Ile	Ile	Thr	Leu		
		35				40					45						
acc	agt	gtt	gac	tct	cga	ctt	caa	acc	ccc	atg	tac	ttt	ttc	ctg	aga		192
Thr	Ser	Val	Asp	Ser	Arg	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg		
	50				55					60							
cat	cta	gct	atc	atc	aat	ctt	ggc	aac	tct	act	gtc	att	gcc	cct	aaa		240
His	Leu	Ala	Ile	Ile	Asn	Leu	Gly	Asn	Ser	Thr	Val	Ile	Ala	Pro	Lys		
65					70				75						80		
atg	ctg	atg	aac	ttt	tta	gta	aag	aag	aaa	act	acc	tca	ttc	tat	gaa		288
Met	Leu	Met	Asn	Phe	Leu	Val	Lys	Lys	Lys	Thr	Thr	Ser	Phe	Tyr	Glu		
			85					90						95			
tgt	gcc	acc	caa	ctg	gga	ggg	ttc	ttg	ttc	ttt	att	gta	tcg	gag	gta		336
Cys	Ala	Thr	Gln	Leu	Gly	Gly	Phe	Leu	Phe	Phe	Ile	Val	Ser	Glu	Val		
			100					105					110				
atg	atg	ctg	gct	gtg	atg	gcc	tat	gac	cgc	tat	gtg	gcc	att	tgt	aac		384
Met	Met	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		
		115				120						125					
cct	ctg	ctc	tac	atg	gtg	gtg	gtg	tct	cgg	cgg	ctc	tgc	ctc	ctg	ctg		432
Pro	Leu	Leu	Tyr	Met	Val	Val	Val	Ser	Arg	Arg	Leu	Cys	Leu	Leu	Leu		
	130					135					140						
gtg	tcc	ctc	acg	tac	ctc	tat	ggc	ttt	tct	aca	gct	att	gtg	gtt	tca		480
Val	Ser	Leu	Thr	Tyr	Leu	Tyr	Gly	Phe	Ser	Thr	Ala	Ile	Val	Val	Ser		
145					150				155						160		
cct	tgt	ata	ttc	tct	gtg	tct	tat	tgc	tct	tct	aat	ata	atc	aat	cat		528
Pro	Cys	Ile	Phe	Ser	Val	Ser	Tyr	Cys	Ser	Ser	Asn	Ile	Ile	Asn	His		
			165					170						175			
ttt	tac	tgt	gat	att	gca	cct	ctg	tta	gca	tta	tct	tgc	tct	gat	act		576
Phe	Tyr	Cys	Asp	Ile	Ala	Pro	Leu	Leu	Ala	Leu	Ser	Cys	Ser	Asp	Thr		
			180					185					190				
tac	ata	cca	gaa	aca	ata	gtc	ttt	ata	tct	gca	gca	aca	aat	ttg	ttt		624
Tyr	Ile	Pro	Glu	Thr	Ile	Val	Phe	Ile	Ser	Ala	Ala	Thr	Asn	Leu	Phe		
		195				200						205					
ttt	tcc	atg	att	aca	gtt	cta	gta	tct	tat	ttc	aat	att	gtt	ttg	tcc		672
Phe	Ser	Met	Ile	Thr	Val	Leu	Val	Ser	Tyr	Phe	Asn	Ile	Val	Leu	Ser		
	210					215					220						
att	cta	agg	ata	cgt	tca	cca	gaa	gga	agg	aaa	aaa	gcc	ttt	tcc	acc		720
Ile	Leu	Arg	Ile	Arg	Ser	Pro	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr		
225					230				235						240		
tgc	gct	tcg	cat	atg	ata	gca	gtc	acg	gtt	ttc	tat	ggg	aca	atg	cta		768
Cys	Ala	Ser	His	Met	Ile	Ala	Val	Thr	Val	Phe	Tyr	Gly	Thr	Met	Leu		

245	250	255	
ttt atg tat ttg cag ccc caa acc aac cac tca ctg gat act gat aag			816
Phe Met Tyr Leu Gln Pro Gln Thr Asn His Ser Leu Asp Thr Asp Lys			
260	265	270	
atg gct tct gtg ttt tac aca ttg gtg att cct atg ctg aat ccc ttg			864
Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu			
275	280	285	
atc tac agc ctg agg aat aat gat gta aat gtt gcc tta aag aaa ttc			912
Ile Tyr Ser Leu Arg Asn Asn Asp Val Asn Val Ala Leu Lys Lys Phe			
290	295	300	
atg gaa aat cca tgt tac tcc ttt aaa tca atg taa			948
Met Glu Asn Pro Cys Tyr Ser Phe Lys Ser Met			
305	310	315	

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 <212> PRT  
 <213> Homo Sapiens

<400> 286

Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly		
1	5	10

Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu		
20	25	30

Val Leu Tyr Val Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu		
35	40	45

Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg		
50	55	60

His Leu Ala Ile Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys		
65	70	75

Met Leu Met Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu		
85	90	95

Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val		
100	105	110

Met Met Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn		
115	120	125

Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu		
130	135	140

Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser  
145 150 155 160

Pro Cys Ile Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His  
165 170 175

Phe Tyr Cys Asp Ile Ala Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
180 185 190

Tyr Ile Pro Glu Thr Ile Val Phe Ile Ser Ala Ala Thr Asn Leu Phe  
195 200 205

Phe Ser Met Ile Thr Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser  
210 215 220

Ile Leu Arg Ile Arg Ser Pro Glu Gly Arg Lys Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ala Ser His Met Ile Ala Val Thr Val Phe Tyr Gly Thr Met Leu  
245 250 255

Phe Met Tyr Leu Gln Pro Gln Thr Asn His Ser Leu Asp Thr Asp Lys  
260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
275 280 285

Ile Tyr Ser Leu Arg Asn Asn Asp Val Asn Val Ala Leu Lys Lys Phe  
290 295 300

Met Glu Asn Pro Cys Tyr Ser Phe Lys Ser Met  
305 310 315

<210> 287  
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<212> DNA  
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<222> (1) .. (930)  
<223>

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Met Ala Gly Asn Asn Phe Thr Glu Val Thr Val Phe Ile Leu Ser Gly  
1 5 10 15

48



ttt gca aat cac cct gaa tta caa gtc agt ctt ttc ttg atg ttt ctc	96
Phe Ala Asn His Pro Glu Leu Gln Val Ser Leu Phe Leu Met Phe Leu	
20 25 30	
ttc att tat cta ttc act gtt ttg gga aac ctg gga ctg atc acg tta	144
Phe Ile Tyr Leu Phe Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu	
35 40 45	
atc aga atg gat tct cag ctt cac acc cct atg tac ttt ttc ctg agc	192
Ile Arg Met Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
aat tta gca ttt att gac ata ttt tac tcc tct act gta aca cct aag	240
Asn Leu Ala Phe Ile Asp Ile Phe Tyr Ser Ser Thr Val Thr Pro Lys	
65 70 75 80	
gca ttg gtg aat ttc caa tcc aat cgg aga tcc atc tcc ttt gtt ggc	288
Ala Leu Val Asn Phe Gln Ser Asn Arg Arg Ser Ile Ser Phe Val Gly	
85 90 95	
tgc ttt gtt caa atg tac ttt ttt gtt gga ttg gtg tgt tgt gag tgt	336
Cys Phe Val Gln Met Tyr Phe Phe Val Gly Leu Val Cys Cys Glu Cys	
100 105 110	
ttc ctt ctg gga tca atg gcc tac aat cgc tac ata gca atc tgc aat	384
Phe Leu Leu Gly Ser Met Ala Tyr Asn Arg Tyr Ile Ala Ile Cys Asn	
115 120 125	
ccc tta ctg tat tca gta gtc atg tcc caa aaa gtg tcc aac tgg ctg	432
Pro Leu Leu Tyr Ser Val Val Met Ser Gln Lys Val Ser Asn Trp Leu	
130 135 140	
gga gta atg cca tat gtg ata ggc ttc aca agc tcg ctg ata tct gtc	480
Gly Val Met Pro Tyr Val Ile Gly Phe Thr Ser Ser Leu Ile Ser Val	
145 150 155 160	
tgg gtg ata agc agt ttg gcg ttc tgt gat tcc agc atc aat cat ttt	528
Trp Val Ile Ser Ser Leu Ala Phe Cys Asp Ser Ser Ile Asn His Phe	
165 170 175	
ttt tgt gac acc aca gct ctt tta gca ctc tcc tgt gta gat aca ttc	576
Phe Cys Asp Thr Thr Ala Leu Leu Ala Leu Ser Cys Val Asp Thr Phe	
180 185 190	
ggc aca gaa atg gtg agc ttt gtc tta gct gga ttc act ctt ctt agc	624
Gly Thr Glu Met Val Ser Phe Val Leu Ala Gly Phe Thr Leu Leu Ser	
195 200 205	
tct ctc ctt atc atc aca gtc act tat atc atc atc atc tca gcc atc	672
Ser Leu Leu Ile Ile Thr Val Thr Tyr Ile Ile Ile Ile Ser Ala Ile	
210 215 220	
ctg agg atc cag tca gca gca ggc agg cag aag gcc ttc tcc acc tgc	720
Leu Arg Ile Gln Ser Ala Ala Gly Arg Gln Lys Ala Phe Ser Thr Cys	
225 230 235 240	
gca tcc cac ctc atg gct gta act atc ttt tat ggg tct ctg att ttc	768
Ala Ser His Leu Met Ala Val Thr Ile Phe Tyr Gly Ser Leu Ile Phe	
245 250 255	
acc tat ttg caa cct gat aac aca tca tcg ctg acc cag gcg cag gtg	816

Thr Tyr Leu Gln Pro Asp Asn Thr Ser Ser Leu Thr Gln Ala Gln Val  
 260 265 270

gca tct gta ttc tat acg att gtc att ccc atg ctg aat cca ctc atc 864  
 Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285

tac agt ctg agg aac aaa gat gtg aaa aat gct ctt ctg aga gtc ata 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Lys Asn Ala Leu Leu Arg Val Ile  
 290 295 300

cat aga aaa ctt ttt cca tga 933  
 His Arg Lys Leu Phe Pro  
 305 310

<210> 288  
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 <212> PRT  
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<400> 288

Met Ala Gly Asn Asn Phe Thr Glu Val Thr Val Phe Ile Leu Ser Gly  
 1 5 10 15

Phe Ala Asn His Pro Glu Leu Gln Val Ser Leu Phe Leu Met Phe Leu  
 20 25 30

Phe Ile Tyr Leu Phe Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu  
 35 40 45

Ile Arg Met Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ala Phe Ile Asp Ile Phe Tyr Ser Ser Thr Val Thr Pro Lys  
 65 70 75 80

Ala Leu Val Asn Phe Gln Ser Asn Arg Arg Ser Ile Ser Phe Val Gly  
 85 90 95

Cys Phe Val Gln Met Tyr Phe Phe Val Gly Leu Val Cys Cys Glu Cys  
 100 105 110

Phe Leu Leu Gly Ser Met Ala Tyr Asn Arg Tyr Ile Ala Ile Cys Asn  
 115 120 125

Pro Leu Leu Tyr Ser Val Val Met Ser Gln Lys Val Ser Asn Trp Leu  
 130 135 140

Gly Val Met Pro Tyr Val Ile Gly Phe Thr Ser Ser Leu Ile Ser Val  
 145 150 155 160



ctc ctg ata tac cta att act atg ctg ggg aat gtg ggg atg ata ttg Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu 35 40 45	144
ata atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu 50 55 60	192
act cac ctg tca ttt att gac ctc agt tac tca act gtc gtc aca cct Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro 65 70 75 80	240
aaa acc tta gcg aac tta ctg act tcc aac tat att tcc ttt acg ggc Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly 85 90 95	288
tgc ttt gcc cag atg ttc ttt ttt gcc ttc ttg ggt act gct gaa tgt Cys Phe Ala Gln Met Phe Phe Phe Ala Phe Leu Gly Thr Ala Glu Cys 100 105 110	336
tac ctt ctc tcc tca atg gcc cat gat cgc tat gca gcg atc tgc agt Tyr Leu Leu Ser Ser Met Ala His Asp Arg Tyr Ala Ala Ile Cys Ser 115 120 125	384
cct cta cac tac aca gtt att atg tcc aaa agg ctc tgc ctc gct ctc Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu 130 135 140	432
atc act ggg cct tat gtg att ggc ttt ata gac tcc ttt gtc aac gtg Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val 145 150 155 160	480
gtt tcc atg agc aga ttg cat ttc tac gac tca aac gta att cat cac Val Ser Met Ser Arg Leu His Phe Tyr Asp Ser Asn Val Ile His His 165 170 175	528
ttt ttc tgt gac act tcc cca att tta gct ctg tcc tgc act gat aca Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr 180 185 190	576
tac aac acc gaa atc ctg ata ttc att att gtt ggt tcc acc ctg atg Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met 195 200 205	624
gtg tcc ctt ttc aca ata tct gca tcc tat gtg ttc att ctc ttt acc Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr 210 215 220	672
atc ctg aaa att aat tcc act tca gga aag cag aaa gct ttc tct act Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr 225 230 235 240	720
tgc gtc tct cat ctc ttg gga gtc acc atc ttt tat agc act ctg att Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile 245 250 255	768
ttt act tat tta aaa cca aga aag tct tat tcc ttg gga aga gat caa Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln 260 265 270	816

Val Ser Met Ser Arg Leu His Phe Tyr Asp Ser Asn Val Ile His His

					165						170						175
Phe	Phe	Cys	Asp	Thr	Ser	Pro	Ile	Leu	Ala	Leu	Ser	Cys	Thr	Asp	Thr		
			180					185					190				
Tyr	Asn	Thr	Glu	Ile	Leu	Ile	Phe	Ile	Ile	Val	Gly	Ser	Thr	Leu	Met		
		195					200					205					
Val	Ser	Leu	Phe	Thr	Ile	Ser	Ala	Ser	Tyr	Val	Phe	Ile	Leu	Phe	Thr		
	210					215					220						
Ile	Leu	Lys	Ile	Asn	Ser	Thr	Ser	Gly	Lys	Gln	Lys	Ala	Phe	Ser	Thr		
225					230					235					240		
Cys	Val	Ser	His	Leu	Leu	Gly	Val	Thr	Ile	Phe	Tyr	Ser	Thr	Leu	Ile		
				245					250					255			
Phe	Thr	Tyr	Leu	Lys	Pro	Arg	Lys	Ser	Tyr	Ser	Leu	Gly	Arg	Asp	Gln		
			260					265					270				
Val	Ala	Ser	Val	Phe	Tyr	Thr	Ile	Val	Ile	Pro	Val	Leu	Asn	Pro	Leu		
	275						280					285					
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys	Asn	Ala	Val	Ile	Arg	Val		
290					295					300							
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Met	Met	Gly	Arg	Arg	Asn	Asp	Thr	Asn	Val	Ala	Asp	Phe	Ile	Leu	Thr			
1				5				10						15				
gga	ctg	tca	gac	tct	gaa	gag	gtc	cag	atg	gct	ctg	ttt	atg	cta	ttt			96
Gly	Leu	Ser	Asp	Ser	Glu	Glu	Val	Gln	Met	Ala	Leu	Phe	Met	Leu	Phe			
			20				25					30						
ctc	ctc	ata	tac	cta	att	act	atg	ctg	ggg	aat	gtg	ggg	atg	cta	ttg			144
Leu	Leu	Ile	Tyr	Leu	Ile	Thr	Met	Leu	Gly	Asn	Val	Gly	Met	Leu	Leu			

35	40	45	
ata atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu 50 55 60			192
act cac ctg tca ttt att gac ctc agt tac tca act gtc gtc aca cct Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro 65 70 75 80			240
aaa acc tta gcg aac tta ctg act tcc aac tat att tcc ttc acg ggc Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly 85 90 95			288
tgc ttt gcc cag atg ttc tgt ttt gtc ttc ttg ggt act gct gaa tgt Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys 100 105 110			336
tat ctt ctc tcc tca atg gcc tat gat cgc tat gca gcg atc tgc agt Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser 115 120 125			384
cct cta cac tac aca gtt att atg ccc aaa agg ctc tgc ctc gct ctc Pro Leu His Tyr Thr Val Ile Met Pro Lys Arg Leu Cys Leu Ala Leu 130 135 140			432
atc act ggg cct tat gtg att ggc ttt atg gac tcc ttt gtc aat gtg Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val 145 150 155 160			480
gtt tcc atg agc aga ttg cat ttc tgt gac tca aac ata att cat cac Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His 165 170 175			528
ttt ttc tgt gac act tcc cca att tta gct ctg tcc tgc act gac aca Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr 180 185 190			576
gac aac act gaa atg ctg ata ttc att atc gct ggt tcc acc ctg atg Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met 195 200 205			624
gtg tcc ctt atc aca ata tct gca tcc tat gtg tcc att ctc tct acc Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr 210 215 220			672
atc ctg aaa att aat tcc act tca gga aag cag aaa gct ttc tct act Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr 225 230 235 240			720
tgc gtc tct cat ctc ttg gga gtc acc atc ttc tat gga act atg att Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile 245 250 255			768
ttt act tac tta aag cca aga aag tct tat tcc ttg gga aga gat caa Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln 260 265 270			816
gtg gct cct gtg ttt tat act att gtg att ccc atg ctg aat cca ctc Val Ala Pro Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu 275 280 285			864

att tat agt ctt aga aac aga gaa gtg aaa aat gct ctc att aga gtc 912  
 Ile Tyr Ser Leu Arg Asn Arg Glu Val Lys Asn Ala Leu Ile Arg Val  
 290 295 300

atg cag aga aga cag gac tcc agg tag 939  
 Met Gln Arg Arg Gln Asp Ser Arg  
 305 310

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<400> 292

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 1 5 10 15

Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe  
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Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu  
 35 40 45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
 65 70 75 80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly  
 85 90 95

Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys  
 100 105 110

Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Pro Lys Arg Leu Cys Leu Ala Leu  
 130 135 140

Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val  
 145 150 155 160

Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His  
 165 170 175



Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr  
180 185 190

Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met  
195 200 205

Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr  
210 215 220

Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr  
225 230 235 240

Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Gly Thr Met Ile  
245 250 255

Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln  
260 265 270

Val Ala Pro Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu  
275 280 285

Ile Tyr Ser Leu Arg Asn Arg Glu Val Lys Asn Ala Leu Ile Arg Val  
290 295 300

Met Gln Arg Arg Gln Asp Ser Arg  
305 310

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1 5 10 15  
ctc aca agg cgg cct gag ctg cag att ccc ctt ttt gga gtc ttc ctc 96  
Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu  
20 25 30  
gtc atc tac cta atc aca gtg gtg ggc aac cta act atg atc att ttg 144  
Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu  
35 40 45  
acc aaa ctg gac tcc cac tta cat aca cct atg tac ttt tct atc aga 192

Thr	Lys	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Ser	Ile	Arg		
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cat	ttg	gct	tct	gtt	gat	ctt	ggg	aat	tct	act	gtc	att	tgt	ccc	aag	240	
His	Leu	Ala	Ser	Val	Asp	Leu	Gly	Asn	Ser	Thr	Val	Ile	Cys	Pro	Lys		
65					70				75						80		
gtg	ctg	gca	aat	ttt	gtt	gtg	gat	cga	aat	act	att	tcc	tat	tat	gca	288	
Val	Leu	Ala	Asn	Phe	Val	Val	Asp	Arg	Asn	Thr	Ile	Ser	Tyr	Tyr	Ala		
				85				90						95			
tgt	gct	gca	cag	ctg	gca	ttc	ttc	ctt	atg	ttc	att	atc	agt	gaa	ttt	336	
Cys	Ala	Ala	Gln	Leu	Ala	Phe	Phe	Leu	Met	Phe	Ile	Ile	Ser	Glu	Phe		
			100					105					110				
ttc	atc	ctg	tca	gcc	atg	gcc	tat	gac	cgc	tat	gtg	gcc	att	tgt	aac	384	
Phe	Ile	Leu	Ser	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Asn		
		115					120					125					
cct	ctg	ctc	tat	tat	gtt	att	atg	tct	cag	cga	ctg	tgt	cat	gta	ctg	432	
Pro	Leu	Leu	Tyr	Tyr	Val	Ile	Met	Ser	Gln	Arg	Leu	Cys	His	Val	Leu		
	130					135					140						
gtg	ggc	att	caa	tat	ctc	tac	agc	aca	ttt	cag	gct	ctg	atg	ttc	act	480	
Val	Gly	Ile	Gln	Tyr	Leu	Tyr	Ser	Thr	Phe	Gln	Ala	Leu	Met	Phe	Thr		
	145				150					155					160		
att	aag	att	ttt	aca	ttg	acc	ttc	tgt	ggc	tct	aat	gtc	atc	agt	cat	528	
Ile	Lys	Ile	Phe	Thr	Leu	Thr	Phe	Cys	Gly	Ser	Asn	Val	Ile	Ser	His		
			165						170					175			
ttt	tac	tgt	gat	gat	gtt	cct	ttg	cta	cct	atg	ctt	tgc	tca	aat	gca	576	
Phe	Tyr	Cys	Asp	Asp	Val	Pro	Leu	Leu	Pro	Met	Leu	Cys	Ser	Asn	Ala		
			180					185					190				
cag	gaa	ata	gaa	ttg	ttg	agc	ata	cta	ttt	tct	gta	ttt	aat	ttg	atc	624	
Gln	Glu	Ile	Glu	Leu	Leu	Ser	Ile	Leu	Phe	Ser	Val	Phe	Asn	Leu	Ile		
		195					200					205					
tcc	tcc	ttt	ctg	ata	gtc	tta	gtg	tcc	tac	atg	ttg	att	ttg	tta	gct	672	
Ser	Ser	Phe	Leu	Ile	Val	Leu	Val	Ser	Tyr	Met	Leu	Ile	Leu	Leu	Ala		
	210					215					220						
ata	tgt	caa	atg	cat	tct	gca	gag	ggc	agg	aaa	aag	gct	ttc	tcc	aca	720	
Ile	Cys	Gln	Met	His	Ser	Ala	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr		
	225				230					235					240		
tgt	ggg	tcc	cat	ttg	aca	gtg	gtg	gtt	gtg	ttc	tat	ggg	tct	cta	ctc	768	
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Val	Val	Phe	Tyr	Gly	Ser	Leu	Leu		
				245				250						255			
ttc	atg	tac	atg	cag	ccc	aat	tcc	act	cac	ttc	ttt	gat	act	gat	aaa	816	
Phe	Met	Tyr	Met	Gln	Pro	Asn	Ser	Thr	His	Phe	Phe	Asp	Thr	Asp	Lys		
			260					265					270				
atg	gct	tct	gtg	ttt	tac	act	tta	gta	atc	ccc	atg	ctt	aac	cct	ttg	864	
Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu		
			275				280					285					
att	tac	agc	tta	aga	aac	gaa	gag	gtg	aaa	aat	gcc	ttc	tat	aag	ctc	912	
Ile	Tyr	Ser	Leu	Arg	Asn	Glu	Glu	Val	Lys	Asn	Ala	Phe	Tyr	Lys	Leu		

290 295 300

ttt gag aat tga  
Phe Glu Asn  
305

924

<210> 294  
<211> 307  
<212> PRT  
<213> Homo Sapiens

<400> 294

Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu  
1 5 10 15

Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu  
20 25 30

Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu  
35 40 45

Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg  
50 55 60

His Leu Ala Ser Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys  
65 70 75 80

Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala  
85 90 95

Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe  
100 105 110

Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu  
130 135 140

Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr  
145 150 155 160

Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His  
165 170 175

Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala  
180 185 190

Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile  
 195 200 205

Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala  
 210 215 220

Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu  
 245 250 255

Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys  
 260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu  
 290 295 300

Phe Glu Asn  
 305

<210> 295  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(933)  
 <223>

<400> 295  
 atg act ggg gga gga aat att aca gaa atc acc tat ttc atc ctg ctg 48  
 Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu Leu  
 1 5 10 15  
 gga ttc tca gat ttt ccc agg atc ata aaa gtg ctc ttc act ata ttc 96  
 Gly Phe Ser Asp Phe Pro Arg Ile Ile Lys Val Leu Phe Thr Ile Phe  
 20 25 30  
 ctg gtg atc tac att aca tct ctg gcc tgg aac ctc tcc ctc att gtt 144  
 Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile Val  
 35 40 45  
 tta ata agg atg gat tcc cac ctc cat aca ccc atg tat ttc ttc ctc 192  
 Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

agt aac ctg tcc ttc ata gat gtc tgc tat atc agc tcc aca gtc ccc	240
Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val Pro	
65 70 75 80	
aag atg ctc tcc aac ctc tta cag gaa cag caa act atc act ttt gtt	288
Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Gln Thr Ile Thr Phe Val	
85 90 95	
ggg tgt att att cag tac ttt atc ttt tca acg atg gga ctg agt gag	336
Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser Glu	
100 105 110	
tct tgt ctc atg aca gcc atg gct tat gat cgt tat gct gcc att tgt	384
Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys	
115 120 125	
aac ccc ctg ctc tat tca tcc atc atg tca ccc acc ctc tgt gtt tgg	432
Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val Trp	
130 135 140	
atg gta ctg gga gcc tac atg act ggc ctc act gct tct tta ttc caa	480
Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe Gln	
145 150 155 160	
att ggt gct ttg ctt caa ctc cac ttc tgt ggg tct aat gtc atc aga	528
Ile Gly Ala Leu Leu Gln Leu His Phe Cys Gly Ser Asn Val Ile Arg	
165 170 175	
cat ttc ttc tgt gac atg ccc caa ctg tta atc ttg tcc tgt act gac	576
His Phe Phe Cys Asp Met Pro Gln Leu Leu Ile Leu Ser Cys Thr Asp	
180 185 190	
act ttc ttt gta cag gtc atg act gct ata tta acc atg ttc ttt ggg	624
Thr Phe Phe Val Gln Val Met Thr Ala Ile Leu Thr Met Phe Phe Gly	
195 200 205	
ata gca agt gcc cta gtt atc atg ata tcc tat ggc tat att ggc atc	672
Ile Ala Ser Ala Leu Val Ile Met Ile Ser Tyr Gly Tyr Ile Gly Ile	
210 215 220	
tcc atc atg aag atc act tca gct aaa ggc agg tcc aag gca ttc aac	720
Ser Ile Met Lys Ile Thr Ser Ala Lys Gly Arg Ser Lys Ala Phe Asn	
225 230 235 240	
acc tgt gct tct cat cta aca gct gtt tcc ctc ttc tat aca tca gga	768
Thr Cys Ala Ser His Leu Thr Ala Val Ser Leu Phe Tyr Thr Ser Gly	
245 250 255	
atc ttt gtc tat ttg agt tcc agc tct gga ggt tct tca agc ttt gac	816
Ile Phe Val Tyr Leu Ser Ser Ser Ser Gly Gly Ser Ser Ser Phe Asp	
260 265 270	
aga ttt gca tct gtt ttc tac act gtg gtc att ccc atg tta aat ccc	864
Arg Phe Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro	
275 280 285	
ttg att tac agt ttg agg aac aaa gaa att aaa gat gcc tta aag agg	912
Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu Lys Arg	
290 295 300	
ttg caa aag aga aag tgc tgc tga	936

Leu Gln Lys Arg Lys Cys Cys  
305 310

<210> 296  
<211> 311  
<212> PRT  
<213> Homo Sapiens

<400> 296

Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu Leu  
1 5 10 15

Gly Phe Ser Asp Phe Pro Arg Ile Ile Lys Val Leu Phe Thr Ile Phe  
20 25 30

Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile Val  
35 40 45

Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu  
50 55 60

Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val Pro  
65 70 75 80

Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Gln Thr Ile Thr Phe Val  
85 90 95

Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser Glu  
100 105 110

Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys  
115 120 125

Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val Trp  
130 135 140

Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe Gln  
145 150 155 160

Ile Gly Ala Leu Leu Gln Leu His Phe Cys Gly Ser Asn Val Ile Arg  
165 170 175

His Phe Phe Cys Asp Met Pro Gln Leu Leu Ile Leu Ser Cys Thr Asp  
180 185 190

Thr Phe Phe Val Gln Val Met Thr Ala Ile Leu Thr Met Phe Phe Gly  
195 200 205

Ile Ala Ser Ala Leu Val Ile Met Ile Ser Tyr Gly Tyr Ile Gly Ile  
 210 215 220

Ser Ile Met Lys Ile Thr Ser Ala Lys Gly Arg Ser Lys Ala Phe Asn  
 225 230 235 240

Thr Cys Ala Ser His Leu Thr Ala Val Ser Leu Phe Tyr Thr Ser Gly  
 245 250 255

Ile Phe Val Tyr Leu Ser Ser Ser Ser Gly Gly Ser Ser Ser Phe Asp  
 260 265 270

Arg Phe Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro  
 275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu Lys Arg  
 290 295 300

Leu Gln Lys Arg Lys Cys Cys  
 305 310

<210> 297  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(948)  
 <223>

<400> 297  
 atg gag aat gtc act aca atg aat gag ttt ctt cta ctt ggc ctg act 48  
 Met Glu Asn Val Thr Thr Met Asn Glu Phe Leu Leu Leu Gly Leu Thr  
 1 5 10 15

ggt gtt cag gag ctg cag cct ttc ttc ttt ggg att ttc tta atc att 96  
 Gly Val Gln Glu Leu Gln Pro Phe Phe Gly Ile Phe Leu Ile Ile  
 20 25 30

tac ctg ata aac ttg att gga aat gga tct ata ttg gtg atg gtt gtt 144  
 Tyr Leu Ile Asn Leu Ile Gly Asn Gly Ser Ile Leu Val Met Val Val  
 35 40 45

ttg gaa cca caa ctc cac tcc cct atg tat ttt ttt ctg gga aac ctt 192  
 Leu Glu Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu Gly Asn Leu  
 50 55 60

tct tgt ctg gat att tct tat tct tca gtg aca ctg ccc aag ctg ctc 240  
 Ser Cys Leu Asp Ile Ser Tyr Ser Ser Val Thr Leu Pro Lys Leu Leu  
 65 70 75 80

gta aac ctc gtg tgc agt cgc agg gct ata tct ttt cta ggc tgt atc	288
Val Asn Leu Val Cys Ser Arg Arg Ala Ile Ser Phe Leu Gly Cys Ile	
85 .90 95	
acc cag cta cac ttc ttc cac ttt ttg gga agc aca gag gcc att tta	336
Thr Gln Leu His Phe Phe His Phe Leu Gly Ser Thr Glu Ala Ile Leu	
100 105 110	
ctg gct atc atg gcc ttt gac cgt ttt gtt gcc atc tgc aat cct ctt	384
Leu Ala Ile Met Ala Phe Asp Arg Phe Val Ala Ile Cys Asn Pro Leu	
115 120 125	
cgc tac act gtc atc atg aac ccc cag gtg tgt att ctg ttg gca gct	432
Arg Tyr Thr Val Ile Met Asn Pro Gln Val Cys Ile Leu Leu Ala Ala	
130 135 140	
gcg gcc tgg ctc atc agc ttc ttt tac gct ctg atg cat tct gtc atg	480
Ala Ala Trp Leu Ile Ser Phe Phe Tyr Ala Leu Met His Ser Val Met	
145 150 155 160	
act gca cac ctg agt ttt tgt ggc tct cag aaa ctc aat cac ttc ttc	528
Thr Ala His Leu Ser Phe Cys Gly Ser Gln Lys Leu Asn His Phe Phe	
165 170 175	
tac gat gtc aag ccg ctc tta gaa ttg gcc tgt agt gac aca tta ctc	576
Tyr Asp Val Lys Pro Leu Leu Glu Leu Ala Cys Ser Asp Thr Leu Leu	
180 185 190	
aat caa tgg ctt ctt tcc att gtc aca ggc agc ata tcc atg gga gct	624
Asn Gln Trp Leu Leu Ser Ile Val Thr Gly Ser Ile Ser Met Gly Ala	
195 200 205	
ttc ttt ctg act ctt ctc tcc tgc ttc tat gta att ggc ttc ctt ctg	672
Phe Phe Leu Thr Leu Leu Ser Cys Phe Tyr Val Ile Gly Phe Leu Leu	
210 215 220	
ttt aag aac agg tcc tgc aga ata ctc cac aag gct ctg tcc act tgt	720
Phe Lys Asn Arg Ser Cys Arg Ile Leu His Lys Ala Leu Ser Thr Cys	
225 230 235 240	
gcc tcc cat ttt atg gtg gta tgt ctt ttc tat gga cct gtg ggc ttc	768
Ala Ser His Phe Met Val Val Cys Leu Phe Tyr Gly Pro Val Gly Phe	
245 250 255	
aca tat att cgt cct gct tca gcc acc tcc atg att cag gac cgg ata	816
Thr Tyr Ile Arg Pro Ala Ser Ala Thr Ser Met Ile Gln Asp Arg Ile	
260 265 270	
atg gcc atc atg tat agc gcc gtc acc cct gta ctg aat cca cta atc	864
Met Ala Ile Met Tyr Ser Ala Val Thr Pro Val Leu Asn Pro Leu Ile	
275 280 285	
tac acc ctt agg aac aaa gaa gtg atg atg gct ctg aag aaa atc ttt	912
Tyr Thr Leu Arg Asn Lys Glu Val Met Met Ala Leu Lys Lys Ile Phe	
290 295 300	
ggg agg aag ttg ttt aaa gac tgg cag caa cac cac tag	951
Gly Arg Lys Leu Phe Lys Asp Trp Gln Gln His His	
305 310 315	



<210> 298  
 <211> 316  
 <212> PRT  
 <213> Homo Sapiens

<400> 298

Met Glu Asn Val Thr Thr Met Asn Glu Phe Leu Leu Leu Gly Leu Thr  
 1 5 10 15

Gly Val Gln Glu Leu Gln Pro Phe Phe Phe Gly Ile Phe Leu Ile Ile  
 20 25 30

Tyr Leu Ile Asn Leu Ile Gly Asn Gly Ser Ile Leu Val Met Val Val  
 35 40 45

Leu Glu Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu Gly Asn Leu  
 50 55 60

Ser Cys Leu Asp Ile Ser Tyr Ser Ser Val Thr Leu Pro Lys Leu Leu  
 65 70 75 80

Val Asn Leu Val Cys Ser Arg Arg Ala Ile Ser Phe Leu Gly Cys Ile  
 85 90 95

Thr Gln Leu His Phe Phe His Phe Leu Gly Ser Thr Glu Ala Ile Leu  
 100 105 110

Leu Ala Ile Met Ala Phe Asp Arg Phe Val Ala Ile Cys Asn Pro Leu  
 115 120 125

Arg Tyr Thr Val Ile Met Asn Pro Gln Val Cys Ile Leu Leu Ala Ala  
 130 135 140

Ala Ala Trp Leu Ile Ser Phe Phe Tyr Ala Leu Met His Ser Val Met  
 145 150 155 160

Thr Ala His Leu Ser Phe Cys Gly Ser Gln Lys Leu Asn His Phe Phe  
 165 170 175

Tyr Asp Val Lys Pro Leu Leu Glu Leu Ala Cys Ser Asp Thr Leu Leu  
 180 185 190

Asn Gln Trp Leu Leu Ser Ile Val Thr Gly Ser Ile Ser Met Gly Ala  
 195 200 205

Phe Phe Leu Thr Leu Leu Ser Cys Phe Tyr Val Ile Gly Phe Leu Leu

210	215	220
Phe Lys Asn Arg Ser Cys Arg Ile Leu His Lys Ala Leu Ser Thr Cys		
225	230	235 240
Ala Ser His Phe Met Val Val Cys Leu Phe Tyr Gly Pro Val Gly Phe		
	245	250 255
Thr Tyr Ile Arg Pro Ala Ser Ala Thr Ser Met Ile Gln Asp Arg Ile		
	260	265 270
Met Ala Ile Met Tyr Ser Ala Val Thr Pro Val Leu Asn Pro Leu Ile		
	275	280 285
Tyr Thr Leu Arg Asn Lys Glu Val Met Met Ala Leu Lys Lys Ile Phe		
	290	295 300
Gly Arg Lys Leu Phe Lys Asp Trp Gln Gln His His		
305	310	315

<210> 299  
 <211> 951  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (948)  
 <223>

<400> 299	
atg gag gct gcc aat gag tct tca gag gga atc tca ttc gtt tta ttg	48
Met Glu Ala Ala Asn Glu Ser Ser Glu Gly Ile Ser Phe Val Leu Leu	
1 5 10 15	
gga ctg aca aca agt cct gga cag cag cgg cct ctc ttt gtg ctg ttc	96
Gly Leu Thr Thr Ser Pro Gly Gln Gln Arg Pro Leu Phe Val Leu Phe	
20 25 30	
ttg ctc ttg tat gtg gcc agc ctc ctg ggt aat gga ctc att gtg gct	144
Leu Leu Tyr Val Ala Ser Leu Leu Gly Asn Gly Leu Ile Val Ala	
35 40 45	
gcc atc cag gcc agt cca gcc ctt cat gca ccc atg tac ttc ctg ctg	192
Ala Ile Gln Ala Ser Pro Ala Leu His Ala Pro Met Tyr Phe Leu Leu	
50 55 60	
gcc cac ctg tcc ttt gct gac ctc tgt ttc gcc tcc gtc act gtg ccc	240
Ala His Leu Ser Phe Ala Asp Leu Cys Phe Ala Ser Val Thr Val Pro	
65 70 75 80	
aag atg ttg gcc aac ttg ttg gcc cat gac cac tcc atc tcg ctg gct	288
Lys Met Leu Ala Asn Leu Leu Ala His Asp His Ser Ile Ser Leu Ala	

85										90					95					
ggc tgc ctg acc caa atg tac ttc ttc ttt gcc ctg ggg gta act gat	336																			
Gly Cys Leu Thr Gln Met Tyr Phe Phe Phe Ala Leu Gly Val Thr Asp																				
100 105 110																				
agc tgt ctt ctg gcg gcc atg gcc tat gac tgc tac gtg gcc atc cgg	384																			
Ser Cys Leu Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Arg																				
115 120 125																				
cac ccc ctc ccc tat gcc acg agg atg tcc cgg gcc atg tgc gca gcc	432																			
His Pro Leu Pro Tyr Ala Thr Arg Met Ser Arg Ala Met Cys Ala Ala																				
130 135 140																				
ctg gtg gga atg gca tgg ctg gtg tcc cac gtc cac tcc ctc ctg tat	480																			
Leu Val Gly Met Ala Trp Leu Val Ser His Val His Ser Leu Leu Tyr																				
145 150 155 160																				
atc ctg ctc atg gct cgc ttg tcc ttc tgt gct tcc cac caa gtg ccc	528																			
Ile Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Ser His Gln Val Pro																				
165 170 175																				
cac ttc ttc tgt gac cac cag cct ctc tta agg ctc tcg tgc tct gac	576																			
His Phe Phe Cys Asp His Gln Pro Leu Leu Arg Leu Ser Cys Ser Asp																				
180 185 190																				
acc cac cac atc cag ctg ctc atc ttc acc gag ggc gcc gca gtg gtg	624																			
Thr His His Ile Gln Leu Leu Ile Phe Thr Glu Gly Ala Ala Val Val																				
195 200 205																				
gtc act ccc ttc ctg ctc atc ctc gcc tcc tat ggg gcc atc gca gct	672																			
Val Thr Pro Phe Leu Leu Ile Leu Ala Ser Tyr Gly Ala Ile Ala Ala																				
210 215 220																				
gcc gtg ctc cag ctg ccc tca gcc tct ggg agg ctc cgg gct gtg tcc	720																			
Ala Val Leu Gln Leu Pro Ser Ala Ser Gly Arg Leu Arg Ala Val Ser																				
225 230 235 240																				
acc tgt ggc tcc cac ctg gct gtg gtg agc ctc ttc tat ggg aca gtc	768																			
Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Thr Val																				
245 250 255																				
att gca gtc tac ttc cag gcc aca tcc cga cgc gag gca gag tgg ggc	816																			
Ile Ala Val Tyr Phe Gln Ala Thr Ser Arg Arg Glu Ala Glu Trp Gly																				
260 265 270																				
cgt gtg gcc act gtc atg tac act gta gtc acc ccc atg ctg aac ccc	864																			
Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro																				
275 280 285																				
atc atc tac agc ctc tgg aat cgc gat gta cag ggg gca ctc cga gcc	912																			
Ile Ile Tyr Ser Leu Trp Asn Arg Asp Val Gln Gly Ala Leu Arg Ala																				
290 295 300																				
ctt ctc att ggg cga agg atc tca gct agt gac tcc tga	951																			
Leu Leu Ile Gly Arg Arg Ile Ser Ala Ser Asp Ser																				
305 310 315																				
<210> 300																				
<211> 316																				

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 300

Met Glu Ala Ala Asn Glu Ser Ser Glu Gly Ile Ser Phe Val Leu Leu  
 1 5 10 15

Gly Leu Thr Thr Ser Pro Gly Gln Gln Arg Pro Leu Phe Val Leu Phe  
 20 25 30

Leu Leu Leu Tyr Val Ala Ser Leu Leu Gly Asn Gly Leu Ile Val Ala  
 35 40 45

Ala Ile Gln Ala Ser Pro Ala Leu His Ala Pro Met Tyr Phe Leu Leu  
 50 55 60

Ala His Leu Ser Phe Ala Asp Leu Cys Phe Ala Ser Val Thr Val Pro  
 65 70 75 80

Lys Met Leu Ala Asn Leu Leu Ala His Asp His Ser Ile Ser Leu Ala  
 85 90 95

Gly Cys Leu Thr Gln Met Tyr Phe Phe Phe Ala Leu Gly Val Thr Asp  
 100 105 110

Ser Cys Leu Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Arg  
 115 120 125

His Pro Leu Pro Tyr Ala Thr Arg Met Ser Arg Ala Met Cys Ala Ala  
 130 135 140

Leu Val Gly Met Ala Trp Leu Val Ser His Val His Ser Leu Leu Tyr  
 145 150 155 160

Ile Leu Leu Met Ala Arg Leu Ser Phe Cys Ala Ser His Gln Val Pro  
 165 170 175

His Phe Phe Cys Asp His Gln Pro Leu Leu Arg Leu Ser Cys Ser Asp  
 180 185 190

Thr His His Ile Gln Leu Leu Ile Phe Thr Glu Gly Ala Ala Val Val  
 195 200 205

Val Thr Pro Phe Leu Leu Ile Leu Ala Ser Tyr Gly Ala Ile Ala Ala  
 210 215 220

Ala Val Leu Gln Leu Pro Ser Ala Ser Gly Arg Leu Arg Ala Val Ser  
225 230 235 240

Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr Gly Thr Val  
245 250 255

Ile Ala Val Tyr Phe Gln Ala Thr Ser Arg Arg Glu Ala Glu Trp Gly  
260 265 270

Arg Val Ala Thr Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro  
275 280 285

Ile Ile Tyr Ser Leu Trp Asn Arg Asp Val Gln Gly Ala Leu Arg Ala  
290 295 300

Leu Leu Ile Gly Arg Arg Ile Ser Ala Ser Asp Ser  
305 310 315

<210> 301  
<211> 942  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(939)  
<223>

<400> 301  
atg gag caa gtc aat aag act gtg gtg aga gag ttc gtc gtc ctc ggc 48  
Met Glu Gln Val Asn Lys Thr Val Val Arg Glu Phe Val Val Leu Gly  
1 5 10 15  
ttc tca tcc ctg gcc agg ctg cag cag ctg ctc ttt gtt atc ttc ctg 96  
Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
20 25 30  
ctc ctc tac ctg ttc act ctg ggc acc aat gca atc atc att tcc acc 144  
Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
35 40 45  
att gtg ctg gac aga gcc ctt cat act ccc atg tac ttc ttc ctt gcc 192  
Ile Val Leu Asp Arg Ala Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60  
atc ctt tct tgc tct gag att tgc tat acc ttt gtc att gta ccc aag 240  
Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Val Ile Val Pro Lys  
65 70 75 80  
atg ctg gtt gac ctg ctg tcc cag aag aag acc att tct ttc ctg ggc 288  
Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly  
85 90 95  
tgt gcc atc caa atg ttt tcc ttc ctc ttc ttt ggc tcc tct cac tcc 336

Cys	Ala	Ile	Gln	Met	Phe	Ser	Phe	Leu	Phe	Phe	Gly	Ser	Ser	His	Ser		
			100					105					110				
ttc	ctg	ctg	gca	gcc	atg	ggc	tat	gat	cgc	tat	atg	gcc	atc	tgt	aac		384
Phe	Leu	Leu	Ala	Ala	Met	Gly	Tyr	Asp	Arg	Tyr	Met	Ala	Ile	Cys	Asn		
		115					120					125					
cca	ctg	cgc	tac	tca	gtg	ctc	atg	gga	cat	ggg	gtg	tgt	atg	gga	cta		432
Pro	Leu	Arg	Tyr	Ser	Val	Leu	Met	Gly	His	Gly	Val	Cys	Met	Gly	Leu		
		130					135					140					
atg	gct	gct	gcc	tgt	gcc	tgt	ggc	ttc	act	gtc	tcc	ctg	gtc	acc	acc		480
Met	Ala	Ala	Ala	Cys	Ala	Cys	Gly	Phe	Thr	Val	Ser	Leu	Val	Thr	Thr		
145						150					155				160		
tcc	cta	gta	ttt	cat	ctg	ccc	ttc	cac	tcc	tcc	aac	cag	ctc	cat	cac		528
Ser	Leu	Val	Phe	His	Leu	Pro	Phe	His	Ser	Ser	Asn	Gln	Leu	His	His		
				165					170					175			
ttc	ttc	tgt	gac	atc	tcc	cct	gtc	ctt	aaa	ctg	gca	tct	cag	cac	tcc		576
Phe	Phe	Cys	Asp	Ile	Ser	Pro	Val	Leu	Lys	Leu	Ala	Ser	Gln	His	Ser		
			180					185					190				
ggc	ttc	agt	cag	ctg	gtc	ata	ttc	atg	ctt	ggg	gta	ttt	gcc	ttg	gtc		624
Gly	Phe	Ser	Gln	Leu	Val	Ile	Phe	Met	Leu	Gly	Val	Phe	Ala	Leu	Val		
		195					200					205					
att	cct	ctg	cta	ctt	atc	cta	gtc	tcc	tac	atc	cgc	atc	atc	tct	gcc		672
Ile	Pro	Leu	Leu	Leu	Ile	Leu	Val	Ser	Tyr	Ile	Arg	Ile	Ile	Ser	Ala		
		210				215					220						
att	cta	aaa	atc	cct	tcc	tcc	gtt	gga	aga	tac	aag	acc	ttc	tcc	acc		720
Ile	Leu	Lys	Ile	Pro	Ser	Ser	Val	Gly	Arg	Tyr	Lys	Thr	Phe	Ser	Thr		
225					230					235					240		
tgt	gcc	tcc	cat	ctc	att	gtg	gta	act	gtt	cac	tac	agt	tgt	gcc	tct		768
Cys	Ala	Ser	His	Leu	Ile	Val	Val	Thr	Val	His	Tyr	Ser	Cys	Ala	Ser		
				245					250					255			
ttc	atc	tac	tta	agg	ccc	aag	act	aat	tac	act	tca	agc	caa	gac	acc		816
Phe	Ile	Tyr	Leu	Arg	Pro	Lys	Thr	Asn	Tyr	Thr	Ser	Ser	Gln	Asp	Thr		
			260					265					270				
cta	ata	tct	gtg	tca	tac	acc	atc	ctt	acc	cca	ttg	ttc	aat	cca	atg		864
Leu	Ile	Ser	Val	Ser	Tyr	Thr	Ile	Leu	Thr	Pro	Leu	Phe	Asn	Pro	Met		
		275					280					285					
att	tat	agt	ctg	aga	aat	aag	gaa	ttc	aaa	tca	gcc	cta	cga	aga	aca		912
Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Phe	Lys	Ser	Ala	Leu	Arg	Arg	Thr		
	290					295					300						
atc	ggc	caa	act	ttc	tat	cct	ctt	agt	taa								942
Ile	Gly	Gln	Thr	Phe	Tyr	Pro	Leu	Ser									
305					310												
<210>	302																
<211>	313																
<212>	PRT																
<213>	Homo Sapiens																

&lt;400&gt; 302

Met Glu Gln Val Asn Lys Thr Val Val Arg Glu Phe Val Val Leu Gly  
1 5 10 15

Phe Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile Phe Leu  
20 25 30

Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr  
35 40 45

Ile Val Leu Asp Arg Ala Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60

Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Val Ile Val Pro Lys  
65 70 75 80

Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly  
85 90 95

Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Phe Gly Ser Ser His Ser  
100 105 110

Phe Leu Leu Ala Ala Met Gly Tyr Asp Arg Tyr Met Ala Ile Cys Asn  
115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu  
130 135 140

Met Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ser Leu Val Thr Thr  
145 150 155 160

Ser Leu Val Phe His Leu Pro Phe His Ser Ser Asn Gln Leu His His  
165 170 175

Phe Phe Cys Asp Ile Ser Pro Val Leu Lys Leu Ala Ser Gln His Ser  
180 185 190

Gly Phe Ser Gln Leu Val Ile Phe Met Leu Gly Val Phe Ala Leu Val  
195 200 205

Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Ile Arg Ile Ile Ser Ala  
210 215 220

Ile Leu Lys Ile Pro Ser Ser Val Gly Arg Tyr Lys Thr Phe Ser Thr  
225 230 235 240

Cys Ala Ser His Leu Ile Val Val Thr Val His Tyr Ser Cys Ala Ser  
245 250 255

Phe Ile Tyr Leu Arg Pro Lys Thr Asn Tyr Thr Ser Ser Gln Asp Thr  
260 265 270

Leu Ile Ser Val Ser Tyr Thr Ile Leu Thr Pro Leu Phe Asn Pro Met  
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Arg Arg Thr  
290 295 300

Ile Gly Gln Thr Phe Tyr Pro Leu Ser  
305 310

<210> 303  
<211> 954  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (951)  
<223>

<400> 303  
atg aga aat ttg agt gga ggc cat gtc gag gag ttt gtc ttg gtg ggt 48  
Met Arg Asn Leu Ser Gly Gly His Val Glu Glu Phe Val Leu Val Gly  
1 5 10 15  
ttc cct acc acg cct ccc ctc cag ctg ctc ctc ttt gtc ctt ttt ttt 96  
Phe Pro Thr Thr Pro Pro Leu Gln Leu Leu Leu Phe Val Leu Phe Phe  
20 25 30  
gca att tac ctt ctg aca ttg ttg gag aat gca ctt att gtc ttc aca 144  
Ala Ile Tyr Leu Leu Thr Leu Leu Glu Asn Ala Leu Ile Val Phe Thr  
35 40 45  
ata tgg ctt gct cca agc ctt cat cgt ccc atg tac ttt ttc ctt ggc 192  
Ile Trp Leu Ala Pro Ser Leu His Arg Pro Met Tyr Phe Phe Leu Gly  
50 55 60  
cat ctc tct ttc ctg gag cta tgg tac atc aat gtc acc att cct cgg 240  
His Leu Ser Phe Leu Glu Leu Trp Tyr Ile Asn Val Thr Ile Pro Arg  
65 70 75 80  
ctc ttg gca gcc ttt ctt acc cag gat ggt aga gtc tcc tac gta ggt 288  
Leu Leu Ala Ala Phe Leu Thr Gln Asp Gly Arg Val Ser Tyr Val Gly  
85 90 95  
tgc atg acc caa ctg tac ttc ttt att gcc tta gcc tgt act gaa tgt 336  
Cys Met Thr Gln Leu Tyr Phe Phe Ile Ala Leu Ala Cys Thr Glu Cys  
100 105 110



gtg ctg ttg gca gtt atg gcc tat gat cgc tac ctg gcc atc tgt gga 384  
 Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gly  
 115 120 125

ccc ctc ctt tac cct agt ctc atg cct tcc agt ctg gcc act cgc ctt 432  
 Pro Leu Leu Tyr Pro Ser Leu Met Pro Ser Ser Leu Ala Thr Arg Leu  
 130 135 140

gct gct gcc tct tgg ggc agt ggc ttc ttc agc tcc atg atg aag ctt 480  
 Ala Ala Ala Ser Trp Gly Ser Gly Phe Phe Ser Ser Met Met Lys Leu  
 145 150 155 160

ctt ttt att tcc caa ttg tcc tac tgt gga ccc aac att atc aac cac 528  
 Leu Phe Ile Ser Gln Leu Ser Tyr Cys Gly Pro Asn Ile Ile Asn His  
 165 170 175

ttt ttc tgt gat att tcc cca cta ctc aac ctc acc tgc tct gac aag 576  
 Phe Phe Cys Asp Ile Ser Pro Leu Leu Asn Leu Thr Cys Ser Asp Lys  
 180 185 190

gag caa gca gag cta gta gac ttc ctt ctg gcc ctg gtg atg att cta 624  
 Glu Gln Ala Glu Leu Val Asp Phe Leu Leu Ala Leu Val Met Ile Leu  
 195 200 205

ctc cct cta ttg gct gtg gtt tca tca tac act gcc atc att gca gcc 672  
 Leu Pro Leu Leu Ala Val Val Ser Ser Tyr Thr Ala Ile Ile Ala Ala  
 210 215 220

atc ctg agg atc cct acg tcc agg gga cgc cac aaa gcc ttt tcc act 720  
 Ile Leu Arg Ile Pro Thr Ser Arg Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

tgt gcc gct cat ctg gca gtg gtt gtt atc tac tac tcc tcc act ctc 768  
 Cys Ala Ala His Leu Ala Val Val Val Ile Tyr Tyr Ser Ser Thr Leu  
 245 250 255

ttc acc tat gca cgg ccc cgg gcc atg tac acc ttc aac cac aac aag 816  
 Phe Thr Tyr Ala Arg Pro Arg Ala Met Tyr Thr Phe Asn His Asn Lys  
 260 265 270

att atc tct gtg ctc tac act atc att gta cca ttc ttc aac cca gcc 864  
 Ile Ile Ser Val Leu Tyr Thr Ile Ile Val Pro Phe Phe Asn Pro Ala  
 275 280 285

atc tac tgc ctg agg aac aag gag gtg aag gag gcc ttc agg aag aca 912  
 Ile Tyr Cys Leu Arg Asn Lys Glu Val Lys Glu Ala Phe Arg Lys Thr  
 290 295 300

gtg atg ggc aga tgt cac tat cct agg gat gtt cag gac tga 954  
 Val Met Gly Arg Cys His Tyr Pro Arg Asp Val Gln Asp  
 305 310 315

<210> 304  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 304

Met Arg Asn Leu Ser Gly Gly His Val Glu Glu Phe Val Leu Val Gly

1	5	10	15
Phe Pro Thr Thr Pro Pro Leu Gln Leu Leu Leu Phe Val Leu Phe Phe	20	25	30
Ala Ile Tyr Leu Leu Thr Leu Leu Glu Asn Ala Leu Ile Val Phe Thr	35	40	45
Ile Trp Leu Ala Pro Ser Leu His Arg Pro Met Tyr Phe Phe Leu Gly	50	55	60
His Leu Ser Phe Leu Glu Leu Trp Tyr Ile Asn Val Thr Ile Pro Arg	65	70	75
Leu Leu Ala Ala Phe Leu Thr Gln Asp Gly Arg Val Ser Tyr Val Gly	85	90	95
Cys Met Thr Gln Leu Tyr Phe Phe Ile Ala Leu Ala Cys Thr Glu Cys	100	105	110
Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Gly	115	120	125
Pro Leu Leu Tyr Pro Ser Leu Met Pro Ser Ser Leu Ala Thr Arg Leu	130	135	140
Ala Ala Ala Ser Trp Gly Ser Gly Phe Phe Ser Ser Met Met Lys Leu	145	150	155
Leu Phe Ile Ser Gln Leu Ser Tyr Cys Gly Pro Asn Ile Ile Asn His	165	170	175
Phe Phe Cys Asp Ile Ser Pro Leu Leu Asn Leu Thr Cys Ser Asp Lys	180	185	190
Glu Gln Ala Glu Leu Val Asp Phe Leu Leu Ala Leu Val Met Ile Leu	195	200	205
Leu Pro Leu Leu Ala Val Val Ser Ser Tyr Thr Ala Ile Ile Ala Ala	210	215	220
Ile Leu Arg Ile Pro Thr Ser Arg Gly Arg His Lys Ala Phe Ser Thr	225	230	235
Cys Ala Ala His Leu Ala Val Val Val Ile Tyr Tyr Ser Ser Thr Leu	245	250	255

Phe Thr Tyr Ala Arg Pro Arg Ala Met Tyr Thr Phe Asn His Asn Lys  
260 265 270

Ile Ile Ser Val Leu Tyr Thr Ile Ile Val Pro Phe Phe Asn Pro Ala  
275 280 285

Ile Tyr Cys Leu Arg Asn Lys Glu Val Lys Glu Ala Phe Arg Lys Thr  
290 295 300

Val Met Gly Arg Cys His Tyr Pro Arg Asp Val Gln Asp  
305 310 315

<210> 305  
<211> 930  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(927)  
<223>

<400> 305  
atg aag atc aac cag aca atc ctg aag gaa ttc att ctt gtt ggc ttt 48  
Met Lys Ile Asn Gln Thr Ile Leu Lys Glu Phe Ile Leu Val Gly Phe  
1 5 10 15  
tct gtg tac cca cat gta cag aca ttt ctt ttt gtg gtc ttc ttt tgt 96  
Ser Val Tyr Pro His Val Gln Thr Phe Leu Phe Val Val Phe Phe Cys  
20 25 30  
ctc tac ctt ctc acc ctt gca ggt aat ctg atc atc atg ggt cta act 144  
Leu Tyr Leu Leu Thr Leu Ala Gly Asn Leu Ile Ile Met Gly Leu Thr  
35 40 45  
tgg gtg gac agg tcc ctc cac acc cct atg tat ctc ttc ctt agt gca 192  
Trp Val Asp Arg Ser Leu His Thr Pro Met Tyr Leu Phe Leu Ser Ala  
50 55 60  
ctc tcc ttc tct gag acc tgc tat acg ctg acc atc gtc ccc aag atg 240  
Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Thr Ile Val Pro Lys Met  
65 70 75 80  
ctg gaa gat cta ctg gcc aag gac aga agc att tca gtc aca ggt tgt 288  
Leu Glu Asp Leu Leu Ala Lys Asp Arg Ser Ile Ser Val Thr Gly Cys  
85 90 95  
agc tta cag atg tgc ttc ttc ttg gga ctt ggt ggc aca aac tgt atc 336  
Ser Leu Gln Met Cys Phe Phe Leu Gly Leu Gly Gly Thr Asn Cys Ile  
100 105 110  
att ctc act ttg atg gga tat gac cgc ttc ctg gcc atc tgt aac cct 384  
Ile Leu Thr Leu Met Gly Tyr Asp Arg Phe Leu Ala Ile Cys Asn Pro  
115 120 125

cta aga tat cca ctg ctt atg acc aac att gta tgt gga caa ctt gtg 432  
 Leu Arg Tyr Pro Leu Leu Met Thr Asn Ile Val Cys Gly Gln Leu Val  
 130 135 140

gcc tct gct tgc act gca ggc ttc ttt atc tct ctt aca gag act gca 480  
 Ala Ser Ala Cys Thr Ala Gly Phe Phe Ile Ser Leu Thr Glu Thr Ala  
 145 150 155 160

ctg ata ttc agg gac tct ttc tgc aga ccc aac ctt gtc aaa cac ttc 528  
 Leu Ile Phe Arg Asp Ser Phe Cys Arg Pro Asn Leu Val Lys His Phe  
 165 170 175

ttc tgc cat atg ctg gca gtt att agg ctg tct tgt ata gac agt aac 576  
 Phe Cys His Met Leu Ala Val Ile Arg Leu Ser Cys Ile Asp Ser Asn  
 180 185 190

cac aca gaa ttc att ata aca ctg atc tca gtg tct ggt ttg ctg ggt 624  
 His Thr Glu Phe Ile Ile Thr Leu Ile Ser Val Ser Gly Leu Leu Gly  
 195 200 205

acc ctt ctg ctc atc atc ctg act gat gtc ttc att att tct act gtc 672  
 Thr Leu Leu Leu Ile Ile Leu Thr Asp Val Phe Ile Ile Ser Thr Val  
 210 215 220

ctc agg atc cct tca gct gag ggc aag cag aag gcc ttc acc acc tgt 720  
 Leu Arg Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Thr Thr Cys  
 225 230 235 240

gcc tcc cac ctc acc gtg gtt ata atc cac ttt ggt ttt gca tct att 768  
 Ala Ser His Leu Thr Val Val Ile Ile His Phe Gly Phe Ala Ser Ile  
 245 250 255

gtt tat ttg aag cca gaa gcc tca gga gat gac aca ctc ata gca gtc 816  
 Val Tyr Leu Lys Pro Glu Ala Ser Gly Asp Asp Thr Leu Ile Ala Val  
 260 265 270

cct tat act gtc att acc ccc ttc ctc agc ccc atc ata ttc agc ctg 864  
 Pro Tyr Thr Val Ile Thr Pro Phe Leu Ser Pro Ile Ile Phe Ser Leu  
 275 280 285

agg aat aag gac atg aaa aat gct ttt aga aga atg atg gga aac aca 912  
 Arg Asn Lys Asp Met Lys Asn Ala Phe Arg Arg Met Met Gly Asn Thr  
 290 295 300

gtt gcc ttg aaa aaa taa 930  
 Val Ala Leu Lys Lys  
 305

<210> 306  
 <211> 309  
 <212> PRT  
 <213> Homo Sapiens

<400> 306

Met Lys Ile Asn Gln Thr Ile Leu Lys Glu Phe Ile Leu Val Gly Phe  
 1 5 10 15

Ser Val Tyr Pro His Val Gln Thr Phe Leu Phe Val Val Phe Phe Cys  
 20 25 30

Leu Tyr Leu Leu Thr Leu Ala Gly Asn Leu Ile Ile Met Gly Leu Thr  
 35 40 45

Trp Val Asp Arg Ser Leu His Thr Pro Met Tyr Leu Phe Leu Ser Ala  
 50 55 60

Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Thr Ile Val Pro Lys Met  
 65 70 75 80

Leu Glu Asp Leu Leu Ala Lys Asp Arg Ser Ile Ser Val Thr Gly Cys  
 85 90 95

Ser Leu Gln Met Cys Phe Phe Leu Gly Leu Gly Gly Thr Asn Cys Ile  
 100 105 110

Ile Leu Thr Leu Met Gly Tyr Asp Arg Phe Leu Ala Ile Cys Asn Pro  
 115 120 125

Leu Arg Tyr Pro Leu Leu Met Thr Asn Ile Val Cys Gly Gln Leu Val  
 130 135 140

Ala Ser Ala Cys Thr Ala Gly Phe Phe Ile Ser Leu Thr Glu Thr Ala  
 145 150 155 160

Leu Ile Phe Arg Asp Ser Phe Cys Arg Pro Asn Leu Val Lys His Phe  
 165 170 175

Phe Cys His Met Leu Ala Val Ile Arg Leu Ser Cys Ile Asp Ser Asn  
 180 185 190

His Thr Glu Phe Ile Ile Thr Leu Ile Ser Val Ser Gly Leu Leu Gly  
 195 200 205

Thr Leu Leu Leu Ile Ile Leu Thr Asp Val Phe Ile Ile Ser Thr Val  
 210 215 220

Leu Arg Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Thr Thr Cys  
 225 230 235 240

Ala Ser His Leu Thr Val Val Ile Ile His Phe Gly Phe Ala Ser Ile  
 245 250 255

Val Tyr Leu Lys Pro Glu Ala Ser Gly Asp Asp Thr Leu Ile Ala Val

260 265 270

Pro Tyr Thr Val Ile Thr Pro Phe Leu Ser Pro Ile Ile Phe Ser Leu  
275 280 285

Arg Asn Lys Asp Met Lys Asn Ala Phe Arg Arg Met Met Gly Asn Thr  
290 295 300

Val Ala Leu Lys Lys  
305

<210> 307  
<211> 969  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (963)  
<223>

<400> 307

atg gag ccc caa aat acc tcc act gtg act aac ttt cag ctg tta gga	48
Met Glu Pro Gln Asn Thr Ser Thr Val Thr Asn Phe Gln Leu Leu Gly	
1 5 10 15	
ttc cag aac ctt ctt gaa tgg cag gcc ctg ctc ttt gtc att ttc ctg	96
Phe Gln Asn Leu Leu Glu Trp Gln Ala Leu Leu Phe Val Ile Phe Leu	
20 25 30	
ctc atc tac tgc ctg acc att ata ggg aat gtt gtc atc atc acc gtg	144
Leu Ile Tyr Cys Leu Thr Ile Ile Gly Asn Val Val Ile Ile Thr Val	
35 40 45	
gtg agc cag ggc ctg cga ctg cac tcc cct atg tac atg ttc ctc cag	192
Val Ser Gln Gly Leu Arg Leu His Ser Pro Met Tyr Met Phe Leu Gln	
50 55 60	
cat ctc tcc ttt ctg gag gtc tgg tac acg tcc acc act gtg ccc ctt	240
His Leu Ser Phe Leu Glu Val Trp Tyr Thr Ser Thr Thr Val Pro Leu	
65 70 75 80	
ctc cta gcc aac ctg ctg tcc tgg ggc caa gcc atc tcc ttc tct gcc	288
Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala	
85 90 95	
tgc atg gca cag ctc tac ttc ttc gta ttc ctc ggc gcc acc gag tgc	336
Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys	
100 105 110	
ttt ctc ctg gcc ttc atg gcc tat gac cgt tac ctg gcc atc tgc agc	384
Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser	
115 120 125	
cca ctc cgc tac ccc ttt ctc atg cat cgt ggg cta tgt gcc agg ttg	432
Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu	

130	135	140	
gtg gtg gtc tca tgg tgc aca ggg gtc agc aca ggc ttt ctg cat tcc			480
Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser			
145	150	155	160
atg atg att tcc agg ttg gac ttc tgt ggg cgc aat cag att aac cat			528
Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His			
	165	170	175
ttc ttc tgc gac ctc ccg cca ctc atg cag ctc tcc tgt tcc aga gtt			576
Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val			
	180	185	190
tat atc acc gag gtg acc atc ttc atc ctg tca att gcc gtg ctg tgc			624
Tyr Ile Thr Glu Val Thr Ile Phe Ile Leu Ser Ile Ala Val Leu Cys			
	195	200	205
att tgt ttt ttt ctg aca ctg ggg ccc tat gtt ttc att gtg tcc tcc			672
Ile Cys Phe Phe Leu Thr Leu Gly Pro Tyr Val Phe Ile Val Ser Ser			
	210	215	220
ata ttg aga atc cct tcc acc tct ggc cgg aga aag acc ttt tcc aca			720
Ile Leu Arg Ile Pro Ser Thr Ser Gly Arg Arg Lys Thr Phe Ser Thr			
	225	230	240
tgt ggc tcc cac ctg gct gtt gtc act ctc tac tac ggg acc atg atc			768
Cys Gly Ser His Leu Ala Val Val Thr Leu Tyr Tyr Gly Thr Met Ile			
	245	250	255
tcc atg tat gtg tgt ccc agt ccc cac ctg ttg cct gaa atc aac aag			816
Ser Met Tyr Val Cys Pro Ser Pro His Leu Leu Pro Glu Ile Asn Lys			
	260	265	270
atc att tct gtc ttc tac act gtg gtc aca cca ctg ctg aac cca gtt			864
Ile Ile Ser Val Phe Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val			
	275	280	285
atc tac agc ttg agg aac aaa gac ttc aaa gaa gct gtt aga aag gtc			912
Ile Tyr Ser Leu Arg Asn Lys Asp Phe Lys Glu Ala Val Arg Lys Val			
	290	295	300
atg aga agg aaa tgt ggt att cta tgg agt aca agt aaa agg aag ttc			960
Met Arg Arg Lys Cys Gly Ile Leu Trp Ser Thr Ser Lys Arg Lys Phe			
	305	310	320
ctt tattag			969
Leu			

<210> 308  
 <211> 321  
 <212> PRT  
 <213> Homo Sapiens

<400> 308

Met	Glu	Pro	Gln	Asn	Thr	Ser	Thr	Val	Thr	Asn	Phe	Gln	Leu	Leu	Gly
1				5					10					15	

Phe Gln Asn Leu Leu Glu Trp Gln Ala Leu Leu Phe Val Ile Phe Leu  
 20 25 30

Leu Ile Tyr Cys Leu Thr Ile Ile Gly Asn Val Val Ile Ile Thr Val  
 35 40 45

Val Ser Gln Gly Leu Arg Leu His Ser Pro Met Tyr Met Phe Leu Gln  
 50 55 60

His Leu Ser Phe Leu Glu Val Trp Tyr Thr Ser Thr Thr Val Pro Leu  
 65 70 75 80

Leu Leu Ala Asn Leu Leu Ser Trp Gly Gln Ala Ile Ser Phe Ser Ala  
 85 90 95

Cys Met Ala Gln Leu Tyr Phe Phe Val Phe Leu Gly Ala Thr Glu Cys  
 100 105 110

Phe Leu Leu Ala Phe Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Ser  
 115 120 125

Pro Leu Arg Tyr Pro Phe Leu Met His Arg Gly Leu Cys Ala Arg Leu  
 130 135 140

Val Val Val Ser Trp Cys Thr Gly Val Ser Thr Gly Phe Leu His Ser  
 145 150 155 160

Met Met Ile Ser Arg Leu Asp Phe Cys Gly Arg Asn Gln Ile Asn His  
 165 170 175

Phe Phe Cys Asp Leu Pro Pro Leu Met Gln Leu Ser Cys Ser Arg Val  
 180 185 190

Tyr Ile Thr Glu Val Thr Ile Phe Ile Leu Ser Ile Ala Val Leu Cys  
 195 200 205

Ile Cys Phe Phe Leu Thr Leu Gly Pro Tyr Val Phe Ile Val Ser Ser  
 210 215 220

Ile Leu Arg Ile Pro Ser Thr Ser Gly Arg Arg Lys Thr Phe Ser Thr  
 225 230 235 240

Cys Gly Ser His Leu Ala Val Val Thr Leu Tyr Tyr Gly Thr Met Ile  
 245 250 255



Ser Met Tyr Val Cys Pro Ser Pro His Leu Leu Pro Glu Ile Asn Lys  
260 265 270

Ile Ile Ser Val Phe Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Val  
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Phe Lys Glu Ala Val Arg Lys Val  
290 295 300

Met Arg Arg Lys Cys Gly Ile Leu Trp Ser Thr Ser Lys Arg Lys Phe  
305 310 315 320

Leu

<210> 309  
<211> 939  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (936)  
<223>

<400> 309  
atg gaa aat tac aat caa aca tca act gat ttc atc tta ttg ggg ctg 48  
Met Glu Asn Tyr Asn Gln Thr Ser Thr Asp Phe Ile Leu Leu Gly Leu  
1 5 10 15  
ttt cca cca tca ata att gac ctt ttc ttc ttc att ctc att gtt ttc 96  
Phe Pro Pro Ser Ile Ile Asp Leu Phe Phe Phe Ile Leu Ile Val Phe  
20 25 30  
att ttc ctg atg gct cta att gga aac ctg tcc atg att ctt ctc atc 144  
Ile Phe Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile  
35 40 45  
ttc ttg gac acc cat ctc cac aca ccc atg tat ttc cta ctg agt cag 192  
Phe Leu Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln  
50 55 60  
ctc tcc ctc att gac cta aat tac atc tcc acc att gtt cct aag atg 240  
Leu Ser Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met  
65 70 75 80  
gca tct gat ttt ctg cat gga aac aag tct atc tcc ttc act ggg tgt 288  
Ala Ser Asp Phe Leu His Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys  
85 90 95  
ggg att cag agt ttc ttc ttc ttg gca tta gga ggt gca gaa gca cta 336  
Gly Ile Gln Ser Phe Phe Phe Leu Ala Leu Gly Gly Ala Glu Ala Leu  
100 105 110  
ctt ttg gca tct atg gcc tat gat cgt tac att gct att tgc ttt cct 384

Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro  
 115 120 125  
 ctc cac tat ctc atc cgc atg agc aaa aga gtg tgt gtg ctg atg ata 432  
 Leu His Tyr Leu Ile Arg Met Ser Lys Arg Val Cys Val Leu Met Ile  
 130 135 140  
 aca ggg tct tgg atc ata ggc tcg atc aat gct tgt gct cac act gta 480  
 Thr Gly Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val  
 145 150 155 160  
 tat gta ctc cat att cct tat tgc cga tcc agg gcc atc aat cat ttc 528  
 Tyr Val Leu His Ile Pro Tyr Cys Arg Ser Arg Ala Ile Asn His Phe  
 165 170 175  
 ttc tgt gat gtc cca gca atg gtg act ctg gcc tgc atg gac acc tgg 576  
 Phe Cys Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp  
 180 185 190  
 gtc tat gag ggc aca gtg ttt ttg agt gcc acc atc ttt ctc gtg ttt 624  
 Val Tyr Glu Gly Thr Val Phe Leu Ser Ala Thr Ile Phe Leu Val Phe  
 195 200 205  
 ccc ttc att ggt att tca tgt tcc tat ggc cag gtt ctc ttt gct gtc 672  
 Pro Phe Ile Gly Ile Ser Cys Ser Tyr Gly Gln Val Leu Phe Ala Val  
 210 215 220  
 tac cac atg aaa tct gca gaa ggg agg aag aaa gcc tat ttg acc tgc 720  
 Tyr His Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys  
 225 230 235 240  
 agc acc cac ctc act gta gta act ttc tac tat gca cct ttt gtc tac 768  
 Ser Thr His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr  
 245 250 255  
 act tat cta cgt cca aga tcc ctg cga tct cca aca gag gac aag gtt 816  
 Thr Tyr Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val  
 260 265 270  
 ctg gct gtc ttc tac acc atc ctc acc cca atg ctc aac ccc atc atc 864  
 Leu Ala Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile  
 275 280 285  
 tat agc ctg agg aac aag gag gtg atg ggg gcc ctg aca cga gtg agt 912  
 Tyr Ser Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser  
 290 295 300  
 cag aga atc tgc tct gtg aaa atg tag 939  
 Gln Arg Ile Cys Ser Val Lys Met  
 305 310  
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 <400> 310  
 Met Glu Asn Tyr Asn Gln Thr Ser Thr Asp Phe Ile Leu Leu Gly Leu  
 1 5 10 15

Phe Pro Pro Ser Ile Ile Asp Leu Phe Phe Phe Ile Leu Ile Val Phe  
                     20                    25                    30

Ile Phe Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile  
                     35                    40                    45

Phe Leu Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln  
                     50                    55                    60

Leu Ser Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met  
                     65                    70                    75                    80

Ala Ser Asp Phe Leu His Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys  
                     85                    90                    95

Gly Ile Gln Ser Phe Phe Phe Leu Ala Leu Gly Gly Ala Glu Ala Leu  
                     100                    105                    110

Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro  
                     115                    120                    125

Leu His Tyr Leu Ile Arg Met Ser Lys Arg Val Cys Val Leu Met Ile  
                     130                    135                    140

Thr Gly Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val  
                     145                    150                    155                    160

Tyr Val Leu His Ile Pro Tyr Cys Arg Ser Arg Ala Ile Asn His Phe  
                     165                    170                    175

Phe Cys Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp  
                     180                    185                    190

Val Tyr Glu Gly Thr Val Phe Leu Ser Ala Thr Ile Phe Leu Val Phe  
                     195                    200                    205

Pro Phe Ile Gly Ile Ser Cys Ser Tyr Gly Gln Val Leu Phe Ala Val  
                     210                    215                    220

Tyr His Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys  
                     225                    230                    235                    240

Ser Thr His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr  
                     245                    250                    255

Thr Tyr Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val  
260 265 270

Leu Ala Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile  
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser  
290 295 300

Gln Arg Ile Cys Ser Val Lys Met  
305 310

<210> 311  
<211> 870  
<212> DNA  
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<220>  
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<222> (1)..(867)  
<223>

<400> 311  
atg gaa aat ggg agc tat acc tct tat ttc att ctc cta gga ctc ttt 48  
Met Glu Asn Gly Ser Tyr Thr Ser Tyr Phe Ile Leu Leu Gly Leu Phe  
1 5 10 15  
aac cac acc aga gcc cac caa gtc ctc ttc atg atg gtt ctg agt atc 96  
Asn His Thr Arg Ala His Gln Val Leu Phe Met Met Val Leu Ser Ile  
20 25 30  
gtt ttg acc tcc ctg ttt ggc aat tcc ctc atg att ctc ctg att cac 144  
Val Leu Thr Ser Leu Phe Gly Asn Ser Leu Met Ile Leu Leu Ile His  
35 40 45  
tgg gac cac cgg ttc cac acg ccc atg tac ttc ctc ctg agc caa ctt 192  
Trp Asp His Arg Phe His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu  
50 55 60  
tcc ctc atg gac gtg atg ctg gtt tcc acc act gtg ccc aaa atg gcg 240  
Ser Leu Met Asp Val Met Leu Val Ser Thr Thr Val Pro Lys Met Ala  
65 70 75 80  
gct gac tac ttg acc gga agt aag gcc atc tcc cgc gct ggc tgt ggt 288  
Ala Asp Tyr Leu Thr Gly Ser Lys Ala Ile Ser Arg Ala Gly Cys Gly  
85 90 95  
gcg cag atc ttc ttc ctc ccc aca ctg ggt ggt gga gag tgc ttc ctc 336  
Ala Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu  
100 105 110  
tta gca gcc atg gcc tat gac cgc tat gcg gct gtc tgc cac cca ctc 384  
Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu  
115 120 125

cga tat ccc act ctc atg agc tgg cag ctg tgc ctg agg atg aac ctg 432  
 Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Asn Leu  
 130 135 140

tcg tgt tgg ctc ctg ggt gca gct gac ggg ctc ctg cag gct gtt gct 480  
 Ser Cys Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Ala  
 145 150 155 160

acc ctg agc ttc cca tat tgc ggt gca cac gag atc gat cac ttc ttc 528  
 Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe  
 165 170 175

tgc gag acc ccc gtg ctg gtg cgt ttg gct tgt gct gac act tca gtc 576  
 Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val  
 180 185 190

ttc gaa aac gcc atg tac atc tgc tgt gtg tta atg ctc ctg gtc ccc 624  
 Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro  
 195 200 205

ttt tcc ctc atc ctg tcc tcc tat ggt ctc atc ctc gct gct gtt ctg 672  
 Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu  
 210 215 220

cac atg cgc tct aca gaa gcc cgc aag aag gcc ttt gcc acc tgc tct 720  
 His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser  
 225 230 235 240

tca cat gtg gct gtg gtg gga ctc ttt tat gga gct gcc att ttt acc 768  
 Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Ala Ile Phe Thr  
 245 250 255

tat atg aga ccc aaa tcc cac agg tcc act aac cac gac aag gtt gtg 816  
 Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val  
 260 265 270

tca gcc ttc tat act atg ttc acc cct tta cta aac ccc ctc atc tac 864  
 Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr  
 275 280 285

agt gtg 870  
 Ser

<210> 312  
 <211> 289  
 <212> PRT  
 <213> Homo Sapiens

<400> 312

Met Glu Asn Gly Ser Tyr Thr Ser Tyr Phe Ile Leu Leu Gly Leu Phe  
 1 5 10 15

Asn His Thr Arg Ala His Gln Val Leu Phe Met Met Val Leu Ser Ile  
 20 25 30

Val Leu Thr Ser Leu Phe Gly Asn Ser Leu Met Ile Leu Leu Ile His

35	40	45																	
Trp	Asp	His	Arg	Phe	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Ser	Gln	Leu				
50						55					60								
Ser	Leu	Met	Asp	Val	Met	Leu	Val	Ser	Thr	Thr	Val	Pro	Lys	Met	Ala				
65					70					75					80				
Ala	Asp	Tyr	Leu	Thr	Gly	Ser	Lys	Ala	Ile	Ser	Arg	Ala	Gly	Cys	Gly				
				85					90					95					
Ala	Gln	Ile	Phe	Phe	Leu	Pro	Thr	Leu	Gly	Gly	Gly	Glu	Cys	Phe	Leu				
			100					105					110						
Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Ala	Ala	Val	Cys	His	Pro	Leu				
	115						120					125							
Arg	Tyr	Pro	Thr	Leu	Met	Ser	Trp	Gln	Leu	Cys	Leu	Arg	Met	Asn	Leu				
130						135					140								
Ser	Cys	Trp	Leu	Leu	Gly	Ala	Ala	Asp	Gly	Leu	Leu	Gln	Ala	Val	Ala				
145					150					155					160				
Thr	Leu	Ser	Phe	Pro	Tyr	Cys	Gly	Ala	His	Glu	Ile	Asp	His	Phe	Phe				
				165					170					175					
Cys	Glu	Thr	Pro	Val	Leu	Val	Arg	Leu	Ala	Cys	Ala	Asp	Thr	Ser	Val				
			180					185					190						
Phe	Glu	Asn	Ala	Met	Tyr	Ile	Cys	Cys	Val	Leu	Met	Leu	Leu	Val	Pro				
	195						200					205							
Phe	Ser	Leu	Ile	Leu	Ser	Ser	Tyr	Gly	Leu	Ile	Leu	Ala	Ala	Val	Leu				
210						215					220								
His	Met	Arg	Ser	Thr	Glu	Ala	Arg	Lys	Lys	Ala	Phe	Ala	Thr	Cys	Ser				
225					230					235					240				
Ser	His	Val	Ala	Val	Val	Gly	Leu	Phe	Tyr	Gly	Ala	Ala	Ile	Phe	Thr				
				245					250					255					
Tyr	Met	Arg	Pro	Lys	Ser	His	Arg	Ser	Thr	Asn	His	Asp	Lys	Val	Val				
			260					265					270						
Ser	Ala	Phe	Tyr	Thr	Met	Phe	Thr	Pro	Leu	Leu	Asn	Pro	Leu	Ile	Tyr				
	275						280					285							

Ser

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 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(954)  
 <223>

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 Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15  
 ctt tct ggt cac cca aga ctt gag tta ctc ttt ttt gtg ctc atc ttc 96  
 Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30  
 ata atg tat gtg gtc atc ctt ctg ggg aat ggt act ctc att tta atc 144  
 Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45  
 agc atc ttg gac cct cac ctt cac acc cct atg tac ttc ttt ctg ggg 192  
 Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tcc ttc ttg gac atc tgc tac acc acc acc tct att ccc tcc 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80  
 acg cta gtg agc ttc ctt tca gaa aga aag acc att tcc ctt tct ggc 288  
 Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ctc ggc ttg gcc atg ggg aca aca gag tgt 336  
 Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 gtg ctt ctg ggc atg atg gcc ttt gac cgc tat gtg gct atc tgc aac 384  
 Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cct ctg aga tat ccc atc atc atg agt aag gat gcc tat gta ccc atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
 130 135 140  
 gca gct ggg tcc tgg atc ata gga gct gtc aat tct gca gta caa tca 480  
 Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Ser  
 145 150 155 160  
 gtg ttt gtg gta caa ttg cct ttc tgc agg aat aac atc atc aat cat 528  
 Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
 165 170 175

ttc acc tgt gaa att ctg gct gtc atg aaa ctg gcc tgt gct gac atc 576  
 Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190

tca gac aat gag ttc atc atg ctt gtg gcc aca aca ttg ttc ata ttg 624  
 Ser Asp Asn Glu Phe Ile Met Leu Val Ala Thr Thr Leu Phe Ile Leu  
 195 200 205

aca cct ttg tta tta atc att gtc tct tac acg tta atc att gtg agc 672  
 Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Val Ser  
 210 215 220

atc ttc aaa att agc tct tcc gag ggg aga agc aaa gct tcc tct acc 720  
 Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Ala Ser Ser Thr  
 225 230 235 240

tgt tca gcc cat ctg act gtg gtc ata ata ttc tat ggg acc atc ctc 768  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
 245 250 255

ttc atg tac atg aag ccc aag tct aaa gag aca ctt aat tcg gat gac 816  
 Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

ttg gat gct acc gac aaa att ata tcc atg ttc tat ggg gtg atg act 864  
 Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
 275 280 285

ccc atg atg aat cct tta atc tac agt ctt aga aac aag gat gtg aaa 912  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gag gca gta aaa cac cta ctg aac aga agg ttc ttt agc aag tga 957  
 Glu Ala Val Lys His Leu Leu Asn Arg Arg Phe Phe Ser Lys  
 305 310 315

<210> 314  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 314

Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15

Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30

Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45

Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60



Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
65 70 75 80

Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
85 90 95

Cys Ala Val Gln Met Phe Leu Gly Leu Ala Met Gly Thr Thr Glu Cys  
100 105 110

Val Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
115 120 125

Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
130 135 140

Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Ser  
145 150 155 160

Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
165 170 175

Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
180 185 190

Ser Asp Asn Glu Phe Ile Met Leu Val Ala Thr Thr Leu Phe Ile Leu  
195 200 205

Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Val Ser  
210 215 220

Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Ala Ser Ser Thr  
225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu  
245 250 255

Phe Met Tyr Met Lys Pro Lys Ser Lys Glu Thr Leu Asn Ser Asp Asp  
260 265 270

Leu Asp Ala Thr Asp Lys Ile Ile Ser Met Phe Tyr Gly Val Met Thr  
275 280 285

Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
290 295 300

Glu Ala Val Lys His Leu Leu Asn Arg Arg Phe Phe Ser Lys

305

310

315

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<220>  
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 <222> (1)..(951)  
 <223>

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 Met Gly Glu Ile Asn Gln Thr Leu Val Ser Glu Phe Leu Leu Leu Gly  
 1 5 10 15  
 ctt tct gga tac cca aag att gag att gtt tac ttt gct ctc att cta 96  
 Leu Ser Gly Tyr Pro Lys Ile Glu Ile Val Tyr Phe Ala Leu Ile Leu  
 20 25 30  
 gtt atg tac cta gtg att cta att ggc aat ggt gtt cta atc ata gcc 144  
 Val Met Tyr Leu Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala  
 35 40 45  
 agc atc ttt gat tct cat ttt cac aca cca atg tac ttc ttc ctg ggc 192  
 Ser Ile Phe Asp Ser His Phe His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tct ttc ctg gat atc tgc tat aca tcc tcc tct gtt ccc tca 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Ser Ser Ser Val Pro Ser  
 65 70 75 80  
 aca ttg gtg agc tta atc tca aag aaa aga aac att tcc ttc tct gga 288  
 Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ttt ggg ttt gca atg ggg tca aca gaa tgt 336  
 Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys  
 100 105 110  
 ctg ctt ctt ggc atg atg gca ttt gat cgt tat gtg gcc atc tgc aac 384  
 Leu Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cca ctg aga tac ccc atc atc ctg agc aag gtg gcg tat gta ttg atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Leu Ser Lys Val Ala Tyr Val Leu Met  
 130 135 140  
 gct tct gtg tcc tgg ctg tcc ggt gga ata aat tca gct gtg caa aca 480  
 Ala Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 tta ctt gcc atg aga ctg cct ttc tgt ggg aat aat att atc aat cat 528  
 Leu Leu Ala Met Arg Leu Pro Phe Cys Gly Asn Asn Ile Ile Asn His  
 165 170 175  
 ttc gca tgt gaa ata tta gct gtc ctc aag ctg gcc tgt gct gat ata 576  
 Phe Ala Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp Ile

180										185										190										
tcc	ctc	aat	att	atc	acc	atg	gtg	ata	tca	aat	atg	gcc	ttc	ctg	gtt		624													
Ser	Leu	Asn	Ile	Ile	Thr	Met	Val	Ile	Ser	Asn	Met	Ala	Phe	Leu	Val															
195					200					205																				
ctt	cca	ctg	atg	gtc	att	ttt	ttc	tcc	tat	atg	ttc	atc	ctc	tac	acc		672													
Leu	Pro	Leu	Met	Val	Ile	Phe	Phe	Ser	Tyr	Met	Phe	Ile	Leu	Tyr	Thr															
210					215					220																				
atc	ttg	caa	atg	aat	tca	gcc	aca	gga	aga	cgc	aag	gca	ttt	tcc	acg		720													
Ile	Leu	Gln	Met	Asn	Ser	Ala	Thr	Gly	Arg	Arg	Lys	Ala	Phe	Ser	Thr															
225					230					235					240															
tgc	tca	gct	cac	ctg	act	gtg	gtg	atc	ata	ttt	tac	ggg	acc	atc	ttc		768													
Cys	Ser	Ala	His	Leu	Thr	Val	Val	Ile	Ile	Phe	Tyr	Gly	Thr	Ile	Phe															
245					250					255																				
ttt	atg	tat	gcg	aaa	ccg	aag	tct	caa	gac	ctg	att	ggg	gaa	gaa	aaa		816													
Phe	Met	Tyr	Ala	Lys	Pro	Lys	Ser	Gln	Asp	Leu	Ile	Gly	Glu	Glu	Lys															
260					265					270																				
ttg	caa	gca	tta	gac	aag	ctc	att	tct	ctg	ttt	tat	ggg	gta	gtg	aca		864													
Leu	Gln	Ala	Leu	Asp	Lys	Leu	Ile	Ser	Leu	Phe	Tyr	Gly	Val	Val	Thr															
275					280					285																				
ccc	atg	ctg	aat	cct	ata	ctc	tat	agc	ttg	aga	aat	aag	gat	gta	aaa		912													
Pro	Met	Leu	Asn	Pro	Ile	Leu	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Lys															
290					295					300																				
gct	gct	gta	aaa	tat	ttg	ctg	aac	aaa	aaa	cca	att	cac	taa				954													
Ala	Ala	Val	Lys	Tyr	Leu	Leu	Asn	Lys	Lys	Pro	Ile	His																		
305					310					315																				

<210> 316  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 316

Met	Gly	Glu	Ile	Asn	Gln	Thr	Leu	Val	Ser	Glu	Phe	Leu	Leu	Leu	Gly
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Leu	Ser	Gly	Tyr	Pro	Lys	Ile	Glu	Ile	Val	Tyr	Phe	Ala	Leu	Ile	Leu
		20						25					30		

Val	Met	Tyr	Leu	Val	Ile	Leu	Ile	Gly	Asn	Gly	Val	Leu	Ile	Ile	Ala
		35					40					45			

Ser	Ile	Phe	Asp	Ser	His	Phe	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly
		50				55					60				

Asn	Leu	Ser	Phe	Leu	Asp	Ile	Cys	Tyr	Thr	Ser	Ser	Ser	Val	Pro	Ser
65					70					75					80

Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly  
 85 90 95  
 Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys  
 100 105 110  
 Leu Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Arg Tyr Pro Ile Ile Leu Ser Lys Val Ala Tyr Val Leu Met  
 130 135 140  
 Ala Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 Leu Leu Ala Met Arg Leu Pro Phe Cys Gly Asn Asn Ile Ile Asn His  
 165 170 175  
 Phe Ala Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 Ser Leu Asn Ile Ile Thr Met Val Ile Ser Asn Met Ala Phe Leu Val  
 195 200 205  
 Leu Pro Leu Met Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr  
 210 215 220  
 Ile Leu Gln Met Asn Ser Ala Thr Gly Arg Arg Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
 245 250 255  
 Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Ile Gly Glu Glu Lys  
 260 265 270  
 Leu Gln Ala Leu Asp Lys Leu Ile Ser Leu Phe Tyr Gly Val Val Thr  
 275 280 285  
 Pro Met Leu Asn Pro Ile Leu Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300  
 Ala Ala Val Lys Tyr Leu Leu Asn Lys Lys Pro Ile His  
 305 310 315

<210> 317  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(954)  
 <223>

<400> 317  
 atg gaa tgg gaa aac cac acc att ctg gtg gaa ttt ttt ctg aag gga 48  
 Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15  
 ctt tct ggt cac cca aga ctt gag tta ctc ttt ttt gtg ctc atc ttc 96  
 Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30  
 ata atg tat gtg gtc atc ctt ctg ggg aat ggt act ctc att tta atc 144  
 Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45  
 agc atc ttg gac cct cac ctt cac acc cct atg tac ttc ttt ctg ggg 192  
 Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 aac ctc tcc ttc ttg gac atc tgc tac acc acc acc tct att ccc tcc 240  
 Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80  
 acg cta gtg agc ttc ctt tca gaa aga aag acc att tcc ctt tct ggc 288  
 Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95  
 tgt gca gtg cag atg ttc ctc agc ttg gcc atg ggg aca aca gag tgt 336  
 Cys Ala Val Gln Met Phe Leu Ser Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 gtg ctt ctg ggc gtg atg gcc ttt gac cgc tat gtg gct atc tgc aac 384  
 Val Leu Leu Gly Val Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 cct ctg aga tat ccc atc atc atg agt aag gat gcc tat gta ccc atg 432  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
 130 135 140  
 gca gct ggg tcc tgg atc ata gga gct gtc aat tct gca gta caa aca 480  
 Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 gtg ttt gtg gta caa ttg cct ttc tgc agg aat aac atc atc aat cat 528  
 Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
 165 170 175  
 ttc acc tgt gaa att cta gct gtc atg aaa ctg gcc tgt gct gac atc 576  
 Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 tca ggc aat gag ttc atc ctg ctt gtg acc aca aca ttg ttc cta ttg 624

Ser Gly Asn Glu Phe Ile Leu Leu Val Thr Thr Thr Leu Phe Leu Leu  
 195 200 205

aca cct ttg tta tta att att gtc tct tac acg tta atc att ttg agc 672  
 Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Leu Ser  
 210 215 220

atc ttc aaa att agc tct tcg gag ggg aga agc aaa cct tcc tct acc 720  
 Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Pro Ser Ser Thr  
 225 230 235 240

tgc tca gct cgt ctg act gtg gtg ata aca ttc tgt ggg acc atc ttc 768  
 Cys Ser Ala Arg Leu Thr Val Val Ile Thr Phe Cys Gly Thr Ile Phe  
 245 250 255

ctc atg tac atg aag ccc aag tct caa gag aca ctt aat tca gat gac 816  
 Leu Met Tyr Met Lys Pro Lys Ser Gln Glu Thr Leu Asn Ser Asp Asp  
 260 265 270

ttg gat gcc act gac aaa ctt ata ttc ata ttc tac agg gtg atg act 864  
 Leu Asp Ala Thr Asp Lys Leu Ile Phe Ile Phe Tyr Arg Val Met Thr  
 275 280 285

ccc atg atg aat cct tta atc tac agt ctt aga aac aag gat gtg aag 912  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gag gca gta aaa cac cta ctg aga aga aaa aat ttt aac aag taa 957  
 Glu Ala Val Lys His Leu Leu Arg Arg Lys Asn Phe Asn Lys  
 305 310 315

<210> 318  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 318

Met Glu Trp Glu Asn His Thr Ile Leu Val Glu Phe Phe Leu Lys Gly  
 1 5 10 15

Leu Ser Gly His Pro Arg Leu Glu Leu Leu Phe Phe Val Leu Ile Phe  
 20 25 30

Ile Met Tyr Val Val Ile Leu Leu Gly Asn Gly Thr Leu Ile Leu Ile  
 35 40 45

Ser Ile Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Thr Ser Ile Pro Ser  
 65 70 75 80

Thr Leu Val Ser Phe Leu Ser Glu Arg Lys Thr Ile Ser Leu Ser Gly  
 85 90 95

Cys Ala Val Gln Met Phe Leu Ser Leu Ala Met Gly Thr Thr Glu Cys  
 100 105 110  
 Val Leu Leu Gly Val Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Arg Tyr Pro Ile Ile Met Ser Lys Asp Ala Tyr Val Pro Met  
 130 135 140  
 Ala Ala Gly Ser Trp Ile Ile Gly Ala Val Asn Ser Ala Val Gln Thr  
 145 150 155 160  
 Val Phe Val Val Gln Leu Pro Phe Cys Arg Asn Asn Ile Ile Asn His  
 165 170 175  
 Phe Thr Cys Glu Ile Leu Ala Val Met Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 Ser Gly Asn Glu Phe Ile Leu Leu Val Thr Thr Thr Leu Phe Leu Leu  
 195 200 205  
 Thr Pro Leu Leu Leu Ile Ile Val Ser Tyr Thr Leu Ile Ile Leu Ser  
 210 215 220  
 Ile Phe Lys Ile Ser Ser Ser Glu Gly Arg Ser Lys Pro Ser Ser Thr  
 225 230 235 240  
 Cys Ser Ala Arg Leu Thr Val Val Ile Thr Phe Cys Gly Thr Ile Phe  
 245 250 255  
 Leu Met Tyr Met Lys Pro Lys Ser Gln Glu Thr Leu Asn Ser Asp Asp  
 260 265 270  
 Leu Asp Ala Thr Asp Lys Leu Ile Phe Ile Phe Tyr Arg Val Met Thr  
 275 280 285  
 Pro Met Met Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300  
 Glu Ala Val Lys His Leu Leu Arg Arg Lys Asn Phe Asn Lys  
 305 310 315

&lt;210&gt; 319

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(960)

&lt;223&gt;

&lt;400&gt; 319

atg	gaa	agg	acc	aac	gat	tcc	acg	tcg	aca	gaa	ttt	ttc	ctg	gta	ggg	48
Met	Glu	Arg	Thr	Asn	Asp	Ser	Thr	Ser	Thr	Glu	Phe	Phe	Leu	Val	Gly	
1				5					10					15		

ctt	tct	gcc	cac	cca	aag	ctc	cag	aca	ggt	ttc	ttc	ggt	cta	att	ttg	96
Leu	Ser	Ala	His	Pro	Lys	Leu	Gln	Thr	Val	Phe	Phe	Val	Leu	Ile	Leu	
			20				25						30			

tgg	atg	tac	ctg	atg	atc	ctg	ctt	gga	aat	gga	gtc	ctt	atc	tca	ggt	144
Trp	Met	Tyr	Leu	Met	Ile	Leu	Leu	Gly	Asn	Gly	Val	Leu	Ile	Ser	Val	
		35				40						45				

atc	atc	ttt	gat	tct	cac	ctg	cac	acc	ccc	atg	tat	ttc	ttc	ctc	tgt	192
Ile	Ile	Phe	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Cys	
		50				55					60					

aat	ctt	tcc	ttc	ctc	gac	ggt	tgc	tac	aca	agt	tcc	tct	gtc	cca	cta	240
Asn	Leu	Ser	Phe	Leu	Asp	Val	Cys	Tyr	Thr	Ser	Ser	Ser	Val	Pro	Leu	
65					70					75					80	

att	ctt	gcc	agc	ttt	ctg	gca	gta	aag	aaa	aag	ggt	tcc	ttc	tct	ggg	288
Ile	Leu	Ala	Ser	Phe	Leu	Ala	Val	Lys	Lys	Lys	Val	Ser	Phe	Ser	Gly	
			85					90						95		

tgt	atg	gtg	caa	atg	ttt	att	tct	ttt	gcc	atg	ggg	gcc	acg	gag	tgc	336
Cys	Met	Val	Gln	Met	Phe	Ile	Ser	Phe	Ala	Met	Gly	Ala	Thr	Glu	Cys	
			100					105					110			

atg	atc	tta	ggc	acg	atg	gca	ctg	gac	cgc	tat	gtg	gcc	atc	tgc	tac	384
Met	Ile	Leu	Gly	Thr	Met	Ala	Leu	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Tyr	
		115				120						125				

cca	ctg	aga	tac	cct	gtc	atc	atg	agc	aag	ggg	gcc	tat	gtg	gcc	atg	432
Pro	Leu	Arg	Tyr	Pro	Val	Ile	Met	Ser	Lys	Gly	Ala	Tyr	Val	Ala	Met	
		130				135					140					

gca	gct	ggg	tcc	tgg	gtc	act	ggg	ctt	gtg	gac	tca	gta	gtg	cag	aca	480
Ala	Ala	Gly	Ser	Trp	Val	Thr	Gly	Leu	Val	Asp	Ser	Val	Val	Gln	Thr	
145					150					155				160		

gct	ttt	gca	atg	cag	tta	cca	ttc	tgt	gct	aat	aat	gtc	att	aaa	cat	528
Ala	Phe	Ala	Met	Gln	Leu	Pro	Phe	Cys	Ala	Asn	Asn	Val	Ile	Lys	His	
				165				170						175		

ttt	gtc	tgt	gaa	att	ctg	gct	atc	ttg	aaa	ctg	gcc	tgt	gct	gat	att	576
Phe	Val	Cys	Glu	Ile	Leu	Ala	Ile	Leu	Lys	Leu	Ala	Cys	Ala	Asp	Ile	
			180					185					190			

tca	atc	aat	gtg	att	agt	atg	aca	ggg	tcg	aat	ctg	att	ggt	ctg	ggt	624
Ser	Ile	Asn	Val	Ile	Ser	Met	Thr	Gly	Ser	Asn	Leu	Ile	Val	Leu	Val	
		195					200						205			



att cca ttg tta gta att tcc atc tct tac ata ttt att gtt gcc act 672  
 Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr  
 210 215 220

att ctg agg att cct tcc act gaa gga aaa cat aag gcc ttc tcc acc 720  
 Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240

tgc tca gcc cac ctg aca gtg gtg att ata ttc tat gga acc atc ttc 768  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
 245 250 255

ttc atg tac gca aag cct gag tct aaa gcc tct gtt gat tca ggt aat 816  
 Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn  
 260 265 270

gaa gac atc att gag gcc ctc atc tcc ctt ttc tat gga gtg atg act 864  
 Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr  
 275 280 285

ccc atg ctt aat cct ctc atc tat agt ctg cga aac aag gat gta aag 912  
 Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

gct gct gtc aaa aac ata ctg tgt agg aaa aac ttt tct gat gga aaa 960  
 Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys  
 305 310 315 320

tga 963

<210> 320  
 <211> 320  
 <212> PRT  
 <213> Homo Sapiens

<400> 320

Met Glu Arg Thr Asn Asp Ser Thr Ser Thr Glu Phe Phe Leu Val Gly  
 1 5 10 15

Leu Ser Ala His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu  
 20 25 30

Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val  
 35 40 45

Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys  
 50 55 60

Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu  
 65 70 75 80

Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly  
 85 90 95

Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys  
 100 105 110

Met Ile Leu Gly Thr Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr  
 115 120 125

Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met  
 130 135 140

Ala Ala Gly Ser Trp Val Thr Gly Leu Val Asp Ser Val Val Gln Thr  
 145 150 155 160

Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His  
 165 170 175

Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile  
 180 185 190

Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val  
 195 200 205

Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr  
 210 215 220

Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
 245 250 255

Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn  
 260 265 270

Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr  
 275 280 285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys  
 305 310 315 320

<210> 321  
 <211> 960  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (957)

&lt;223&gt;

&lt;400&gt; 321

atg ttc ccg gca aat tgg aca tct gta aaa gta ttt ttc ttc ctg gga	48
Met Phe Pro Ala Asn Trp Thr Ser Val Lys Val Phe Phe Phe Leu Gly	
1 5 10 15	
ttt ttt cac tac ccc aaa gtt cag gtc atc ata ttt gcg gtg tgc ttg	96
Phe Phe His Tyr Pro Lys Val Gln Val Ile Ile Phe Ala Val Cys Leu	
20 25 30	
ctg atg tac ctg atc acc ttg ctg ggc aac att ttt ctg atc tcc atc	144
Leu Met Tyr Leu Ile Thr Leu Leu Gly Asn Ile Phe Leu Ile Ser Ile	
35 40 45	
acc att cta gat tcc cac ctg cac acc cct atg tac ctc ttc ctc agc	192
Thr Ile Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser	
50 55 60	
aat ctc tcc ttt ctg gac atc tgg tac tcc tct tct gcc ctc tct cca	240
Asn Leu Ser Phe Leu Asp Ile Trp Tyr Ser Ser Ser Ala Leu Ser Pro	
65 70 75 80	
atg ctg gca aac ttt gtt tca ggg aga aac act att tca ttc tca ggg	288
Met Leu Ala Asn Phe Val Ser Gly Arg Asn Thr Ile Ser Phe Ser Gly	
85 90 95	
tgc gcc act cag atg tac ctc tcc ctt gcc atg ggc tcc act gag tgt	336
Cys Ala Thr Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys	
100 105 110	
gtg ctc ctg ccc atg atg gca tat gac cgg tat gtg gcc atc tgc aac	384
Val Leu Leu Pro Met Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
ccc ctg aga tac cct gtc atc atg aat agg aga acc tgt gtg cag att	432
Pro Leu Arg Tyr Pro Val Ile Met Asn Arg Arg Thr Cys Val Gln Ile	
130 135 140	
gca gct ggc tcc tgg atg aca ggc tgt ctc act gcc atg gtg gaa atg	480
Ala Ala Gly Ser Trp Met Thr Gly Cys Leu Thr Ala Met Val Glu Met	
145 150 155 160	
atg tct gtg ctg cca ctg tct ctc tgt ggt aat agc atc atc aat cat	528
Met Ser Val Leu Pro Leu Ser Leu Cys Gly Asn Ser Ile Ile Asn His	
165 170 175	
ttc act tgt gaa att ctg gcc atc ttg aaa ttg gtt tgt gtg gac acc	576
Phe Thr Cys Glu Ile Leu Ala Ile Leu Lys Leu Val Cys Val Asp Thr	
180 185 190	
tcc ctg gtg cag tta atc atg ctg gtg atc agt gta ctt ctt ctc ccc	624
Ser Leu Val Gln Leu Ile Met Leu Val Ile Ser Val Leu Leu Leu Pro	
195 200 205	
atg cca atg cta ctc att tgt atc tct tat gca ttt atc ctc gcc agt	672

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Met Pro Met Leu Leu Ile Cys Ile Ser Tyr Ala Phe Ile Leu Ala Ser
 210                               215                               220

atc ctg aga atc agc tca gtg gaa ggt cga agt aaa gcc ttt tca acg      720
Ile Leu Arg Ile Ser Ser Val Glu Gly Arg Ser Lys Ala Phe Ser Thr
225                               230                               235                               240

tgc aca gcc cac ctg atg gtg gta gtt ttg ttc tat ggg acg gct ctc      768
Cys Thr Ala His Leu Met Val Val Val Leu Phe Tyr Gly Thr Ala Leu
                               245                               250                               255

tcc atg cac ctg aag ccc tcc gct gta gat tca cag gaa ata gac aaa      816
Ser Met His Leu Lys Pro Ser Ala Val Asp Ser Gln Glu Ile Asp Lys
                               260                               265                               270

ttt atg gct ttg gtg tat gcc gga caa acc ccc atg ttg aat cct atc      864
Phe Met Ala Leu Val Tyr Ala Gly Gln Thr Pro Met Leu Asn Pro Ile
                               275                               280                               285

atc tat agt cta cgg aac aaa gag gtg aaa gtg gcc ttg aaa aaa ttg      912
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Val Ala Leu Lys Lys Leu
                               290                               295                               300

ctg att aga aat cat ttt aat act gcc ttc att tcc atc ctc aaa taa      960
Leu Ile Arg Asn His Phe Asn Thr Ala Phe Ile Ser Ile Leu Lys
305                               310                               315

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<210> 322
<211> 319
<212> PRT
<213> Homo Sapiens

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<400> 322

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Met Phe Pro Ala Asn Trp Thr Ser Val Lys Val Phe Phe Phe Leu Gly
 1                               5                               10                               15

Phe Phe His Tyr Pro Lys Val Gln Val Ile Ile Phe Ala Val Cys Leu
 20                               25                               30

Leu Met Tyr Leu Ile Thr Leu Leu Gly Asn Ile Phe Leu Ile Ser Ile
 35                               40                               45

Thr Ile Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser
 50                               55                               60

Asn Leu Ser Phe Leu Asp Ile Trp Tyr Ser Ser Ser Ala Leu Ser Pro
 65                               70                               75                               80

Met Leu Ala Asn Phe Val Ser Gly Arg Asn Thr Ile Ser Phe Ser Gly
 85                               90                               95

Cys Ala Thr Gln Met Tyr Leu Ser Leu Ala Met Gly Ser Thr Glu Cys
 100                               105                               110

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Val Leu Leu Pro Met Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Leu Arg Tyr Pro Val Ile Met Asn Arg Arg Thr Cys Val Gln Ile  
 130 135 140

Ala Ala Gly Ser Trp Met Thr Gly Cys Leu Thr Ala Met Val Glu Met  
 145 150 155 160

Met Ser Val Leu Pro Leu Ser Leu Cys Gly Asn Ser Ile Ile Asn His  
 165 170 175

Phe Thr Cys Glu Ile Leu Ala Ile Leu Lys Leu Val Cys Val Asp Thr  
 180 185 190

Ser Leu Val Gln Leu Ile Met Leu Val Ile Ser Val Leu Leu Leu Pro  
 195 200 205

Met Pro Met Leu Leu Ile Cys Ile Ser Tyr Ala Phe Ile Leu Ala Ser  
 210 215 220

Ile Leu Arg Ile Ser Ser Val Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Thr Ala His Leu Met Val Val Val Leu Phe Tyr Gly Thr Ala Leu  
 245 250 255

Ser Met His Leu Lys Pro Ser Ala Val Asp Ser Gln Glu Ile Asp Lys  
 260 265 270

Phe Met Ala Leu Val Tyr Ala Gly Gln Thr Pro Met Leu Asn Pro Ile  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Val Ala Leu Lys Lys Leu  
 290 295 300

Leu Ile Arg Asn His Phe Asn Thr Ala Phe Ile Ser Ile Leu Lys  
 305 310 315

<210> 323  
 <211> 933  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS

<222> (1)..(930)  
<223>

<400> 323

aat tac aat caa tca tca act gat ttc atc tta tta gga ttc ttc cca	48
Asn Tyr Asn Gln Ser Ser Thr Asp Phe Ile Leu Leu Gly Phe Phe Pro	
1 5 10 15	
cca tca aga att ggc ctt ttc ctc ttc atc ctc att gtt ttc att ttc	96
Pro Ser Arg Ile Gly Leu Phe Leu Phe Ile Leu Ile Val Phe Ile Phe	
20 25 30	
cta atg gct cta att gga aac cta tcc atg att ctt ctc atc ttc ttg	144
Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile Phe Leu	
35 40 45	
gac acc cat ctc cac aca ccc atg tat ttc cta ctt agt cag ctc tcc	192
Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser	
50 55 60	
ctc att gac cta aat tac atc tcc acc att gtt cct aag atg gca tct	240
Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met Ala Ser	
65 70 75 80	
gat ttt ctg tct ggt aac aag tct atc tcc ttc act ggg tgt ggg att	288
Asp Phe Leu Ser Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys Gly Ile	
85 90 95	
cag agt ttc ttc ttc tcg gca tta gga ggt gca gaa gca cta ctt ttg	336
Gln Ser Phe Phe Phe Ser Ala Leu Gly Gly Ala Glu Ala Leu Leu Leu	
100 105 110	
gca tct atg gcc tat gat cgt tac att gct att tgc ttt cct ctt cac	384
Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro Leu His	
115 120 125	
tat ccc atc cgc atg agc aaa aga atg tgt gtg ctg atg ata aca ggg	432
Tyr Pro Ile Arg Met Ser Lys Arg Met Cys Val Leu Met Ile Thr Gly	
130 135 140	
tct tgg atc ata ggc tcg atc aat gct tgt gct cac act gta tat gta	480
Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val Tyr Val	
145 150 155 160	
ctc cat att cct tat tgc caa tcc agg gcc atc aat cat ttc ttc tgt	528
Leu His Ile Pro Tyr Cys Gln Ser Arg Ala Ile Asn His Phe Phe Cys	
165 170 175	
gat gtc cca gca atg gtg act ctg gcc tgc atg gac acc tgg gtc tat	576
Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp Val Tyr	
180 185 190	
gag ggc aca gtg ttt ttg agc acc acc atc ttt ctc gtg ttt ccc ttc	624
Glu Gly Thr Val Phe Leu Ser Thr Thr Ile Phe Leu Val Phe Pro Phe	
195 200 205	
att gct att tca tgt tcc tat ggc cgg gtt ctc ctt gct gtc tac cac	672
Ile Ala Ile Ser Cys Ser Tyr Gly Arg Val Leu Leu Ala Val Tyr His	
210 215 220	

atg aaa tct gca gaa ggg agg aag aaa gcc tac ctg acc tgc agc acc 720  
 Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys Ser Thr  
 225 230 235 240  
 cac ctc act gta gta act ttc tac tat gca cct ttt gtc tac act tat 768  
 His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr Thr Tyr  
 245 250 255  
 cta cgt cca aga tcc ctg cga tct cca aca gag gac aag gtt ctg gct 816  
 Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val Leu Ala  
 260 265 270  
 gtc ttc tac acc atc ctc acc cca atg ctc aac ccc atc atc tat agc 864  
 Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser  
 275 280 285  
 ctg agg aac aag gag gtg atg ggg gcc ctg aca cga gtg agt cag aga 912  
 Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser Gln Arg  
 290 295 300  
 atc tgc tct gtg aaa atg tag 933  
 Ile Cys Ser Val Lys Met  
 305 310

<210> 324  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 324

Asn Tyr Asn Gln Ser Ser Thr Asp Phe Ile Leu Leu Gly Phe Phe Pro  
 1 5 10 15  
 Pro Ser Arg Ile Gly Leu Phe Leu Phe Ile Leu Ile Val Phe Ile Phe  
 20 25 30  
 Leu Met Ala Leu Ile Gly Asn Leu Ser Met Ile Leu Leu Ile Phe Leu  
 35 40 45  
 Asp Thr His Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser  
 50 55 60  
 Leu Ile Asp Leu Asn Tyr Ile Ser Thr Ile Val Pro Lys Met Ala Ser  
 65 70 75 80  
 Asp Phe Leu Ser Gly Asn Lys Ser Ile Ser Phe Thr Gly Cys Gly Ile  
 85 90 95  
 Gln Ser Phe Phe Phe Ser Ala Leu Gly Gly Ala Glu Ala Leu Leu Leu  
 100 105 110  
 Ala Ser Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Phe Pro Leu His

115	120	125
Tyr Pro Ile Arg Met Ser Lys Arg Met Cys Val Leu Met Ile Thr Gly		
130	135	140
Ser Trp Ile Ile Gly Ser Ile Asn Ala Cys Ala His Thr Val Tyr Val		
145	150	155
Leu His Ile Pro Tyr Cys Gln Ser Arg Ala Ile Asn His Phe Phe Cys		
165	170	175
Asp Val Pro Ala Met Val Thr Leu Ala Cys Met Asp Thr Trp Val Tyr		
180	185	190
Glu Gly Thr Val Phe Leu Ser Thr Thr Ile Phe Leu Val Phe Pro Phe		
195	200	205
Ile Ala Ile Ser Cys Ser Tyr Gly Arg Val Leu Leu Ala Val Tyr His		
210	215	220
Met Lys Ser Ala Glu Gly Arg Lys Lys Ala Tyr Leu Thr Cys Ser Thr		
225	230	235
His Leu Thr Val Val Thr Phe Tyr Tyr Ala Pro Phe Val Tyr Thr Tyr		
245	250	255
Leu Arg Pro Arg Ser Leu Arg Ser Pro Thr Glu Asp Lys Val Leu Ala		
260	265	270
Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser		
275	280	285
Leu Arg Asn Lys Glu Val Met Gly Ala Leu Thr Arg Val Ser Gln Arg		
290	295	300
Ile Cys Ser Val Lys Met		
305	310	

<210> 325  
 <211> 930  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (927)  
 <223>



<400> 325  
 atg gga ttg ggc aat gag agt tcc cta atg gat ttc atc ctt cta ggc 48  
 Met Gly Leu Gly Asn Glu Ser Ser Leu Met Asp Phe Ile Leu Leu Gly  
 1 5 10 15

ttc tca gac cac cct cgt ctg gag gct gtt ctc ttt gta ttt gtc ctt 96  
 Phe Ser Asp His Pro Arg Leu Glu Ala Val Leu Phe Val Phe Val Leu  
 20 25 30

ttc ttc tac ctc ctg acc ctt gtg gga aac ttc acc ata atc atc atc 144  
 Phe Phe Tyr Leu Leu Thr Leu Val Gly Asn Phe Thr Ile Ile Ile Ile  
 35 40 45

tca tat ctg gat ccc cct ctt cat acc cca atg tac ttt ttt ctc agc 192  
 Ser Tyr Leu Asp Pro Pro Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

aac ctc tct tta ctg gac atc tgc ttc act act agc ctt gct cct cag 240  
 Asn Leu Ser Leu Leu Asp Ile Cys Phe Thr Thr Ser Leu Ala Pro Gln  
 65 70 75 80

acc tta gtt aac ttg caa aga cca aag aag acg atc act tac ggt ggt 288  
 Thr Leu Val Asn Leu Gln Arg Pro Lys Lys Thr Ile Thr Tyr Gly Gly  
 85 90 95

tgt gtg gcg caa ctc tat att tct ctg gca ctg ggc tcc act gaa tgt 336  
 Cys Val Ala Gln Leu Tyr Ile Ser Leu Ala Leu Gly Ser Thr Glu Cys  
 100 105 110

atc ctc ttg gct gac atg gcc ttg gat cgg tac att gct gtc tgc aaa 384  
 Ile Leu Leu Ala Asp Met Ala Leu Asp Arg Tyr Ile Ala Val Cys Lys  
 115 120 125

ccc ctc cac tat gta gtc atc atg aac cca cgg ctt tgc caa cag ctg 432  
 Pro Leu His Tyr Val Val Ile Met Asn Pro Arg Leu Cys Gln Gln Leu  
 130 135 140

gca tct atc tcc tgg ctc agt ggt ttg gct agt tcc cta atc cat gca 480  
 Ala Ser Ile Ser Trp Leu Ser Gly Leu Ala Ser Ser Leu Ile His Ala  
 145 150 155 160

act ttt acc ttg caa ttg cct ctc tgt ggc aac cat agg ctg gac cat 528  
 Thr Phe Thr Leu Gln Leu Pro Leu Cys Gly Asn His Arg Leu Asp His  
 165 170 175

ttt att tgc gaa gta cca gct ctt ctc aag ttg gct tgt gtg gac acc 576  
 Phe Ile Cys Glu Val Pro Ala Leu Leu Lys Leu Ala Cys Val Asp Thr  
 180 185 190

act gtc aat gaa ttg gtg ctt ttt gtt gtt agt gtt ctg ttt gtt gtc 624  
 Thr Val Asn Glu Leu Val Leu Phe Val Val Ser Val Leu Phe Val Val  
 195 200 205

att cca cca gca ctc atc tcc atc tcc tat ggc ttc ata act caa gct 672  
 Ile Pro Pro Ala Leu Ile Ser Ile Ser Tyr Gly Phe Ile Thr Gln Ala  
 210 215 220

gtg ctg agg atc aaa tca gta gag gca agg cat aaa gcc ttc agc acc 720  
 Val Leu Arg Ile Lys Ser Val Glu Ala Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

tgc tcc tcc cac ctt aca gtg gtg att ata ttc tat ggc acc ata atc 768  
 Cys Ser Ser His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Ile  
                   245                  250                  255

tac gtg tac ctg caa cct agt gac agc tat gcc cag gac caa ggg aag 816  
 Tyr Val Tyr Leu Gln Pro Ser Asp Ser Tyr Ala Gln Asp Gln Gly Lys  
                   260                  265                  270

ttt atc tcc ctc ttc tac acc atg gtg acc ccc act tta aat cct atc 864  
 Phe Ile Ser Leu Phe Tyr Thr Met Val Thr Pro Thr Leu Asn Pro Ile  
                   275                  280                  285

atc tat act tta agg aac aag gat atg aaa gag gct ctg agg aaa ctt 912  
 Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Glu Ala Leu Arg Lys Leu  
                   290                  295                  300

ctc tcg gga aaa ttg tga 930  
 Leu Ser Gly Lys Leu  
 305

<210> 326  
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 <212> PRT  
 <213> Homo Sapiens

<400> 326

Met Gly Leu Gly Asn Glu Ser Ser Leu Met Asp Phe Ile Leu Leu Gly  
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Phe Ser Asp His Pro Arg Leu Glu Ala Val Leu Phe Val Phe Val Leu  
                   20                  25                  30

Phe Phe Tyr Leu Leu Thr Leu Val Gly Asn Phe Thr Ile Ile Ile Ile  
                   35                  40                  45

Ser Tyr Leu Asp Pro Pro Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
                   50                  55                  60

Asn Leu Ser Leu Leu Asp Ile Cys Phe Thr Thr Ser Leu Ala Pro Gln  
 65                  70                  75                  80

Thr Leu Val Asn Leu Gln Arg Pro Lys Lys Thr Ile Thr Tyr Gly Gly  
                   85                  90                  95

Cys Val Ala Gln Leu Tyr Ile Ser Leu Ala Leu Gly Ser Thr Glu Cys  
                   100                  105                  110

Ile Leu Leu Ala Asp Met Ala Leu Asp Arg Tyr Ile Ala Val Cys Lys  
                   115                  120                  125

Pro Leu His Tyr Val Val Ile Met Asn Pro Arg Leu Cys Gln Gln Leu  
 130 135 140

Ala Ser Ile Ser Trp Leu Ser Gly Leu Ala Ser Ser Leu Ile His Ala  
 145 150 155 160

Thr Phe Thr Leu Gln Leu Pro Leu Cys Gly Asn His Arg Leu Asp His  
 165 170 175

Phe Ile Cys Glu Val Pro Ala Leu Leu Lys Leu Ala Cys Val Asp Thr  
 180 185 190

Thr Val Asn Glu Leu Val Leu Phe Val Val Ser Val Leu Phe Val Val  
 195 200 205

Ile Pro Pro Ala Leu Ile Ser Ile Ser Tyr Gly Phe Ile Thr Gln Ala  
 210 215 220

Val Leu Arg Ile Lys Ser Val Glu Ala Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ser His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Ile  
 245 250 255

Tyr Val Tyr Leu Gln Pro Ser Asp Ser Tyr Ala Gln Asp Gln Gly Lys  
 260 265 270

Phe Ile Ser Leu Phe Tyr Thr Met Val Thr Pro Thr Leu Asn Pro Ile  
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Glu Ala Leu Arg Lys Leu  
 290 295 300

Leu Ser Gly Lys Leu  
 305

<210> 327  
 <211> 954  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (951)  
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48

Met	Gly	Met	Val	Arg	His	Thr	Asn	Glu	Ser	Asn	Leu	Ala	Gly	Phe	Ile	
1				5					10					15		
ctt	tta	ggg	ttt	tct	gat	tat	cct	cag	tta	cag	aag	gtt	cta	ttt	gtg	96
Leu	Leu	Gly	Phe	Ser	Asp	Tyr	Pro	Gln	Leu	Gln	Lys	Val	Leu	Phe	Val	
			20					25					30			
ctc	ata	ttg	att	ctg	tat	tta	cta	act	att	ttg	ggg	aat	acc	acc	atc	144
Leu	Ile	Leu	Ile	Leu	Tyr	Leu	Leu	Thr	Ile	Leu	Gly	Asn	Thr	Thr	Ile	
			35					40				45				
att	ctg	gtt	tct	cgt	ctg	gaa	ccc	aag	ctt	cat	atg	ccg	atg	tat	ttc	192
Ile	Leu	Val	Ser	Arg	Leu	Glu	Pro	Lys	Leu	His	Met	Pro	Met	Tyr	Phe	
		50				55					60					
ttc	ctt	tct	cat	ctc	tcc	ttc	ctg	tac	cgc	tgc	ttc	acc	agc	agt	gtt	240
Phe	Leu	Ser	His	Leu	Ser	Phe	Leu	Tyr	Arg	Cys	Phe	Thr	Ser	Ser	Val	
65					70				75						80	
att	ccc	cag	ctc	ctg	gta	aac	ctg	tgg	gaa	ccc	atg	aaa	act	atc	gcc	288
Ile	Pro	Gln	Leu	Leu	Val	Asn	Leu	Trp	Glu	Pro	Met	Lys	Thr	Ile	Ala	
				85					90					95		
tat	ggt	ggc	tgt	ttg	gtt	cac	ctt	tac	aac	tcc	cat	gcc	ctg	gga	tcc	336
Tyr	Gly	Gly	Cys	Leu	Val	His	Leu	Tyr	Asn	Ser	His	Ala	Leu	Gly	Ser	
			100					105					110			
act	gag	tgc	gtc	ctc	ccg	gct	ctg	atg	tcc	tgt	gac	cgc	tat	gtg	gct	384
Thr	Glu	Cys	Val	Leu	Pro	Ala	Leu	Met	Ser	Cys	Asp	Arg	Tyr	Val	Ala	
		115					120					125				
gtc	tgc	cgt	cct	ctc	cat	tac	act	gtc	tta	atg	cat	atc	cat	ctc	tgc	432
Val	Cys	Arg	Pro	Leu	His	Tyr	Thr	Val	Leu	Met	His	Ile	His	Leu	Cys	
	130					135					140					
atg	gcc	ttg	gca	tct	atg	gca	tgg	ctc	agt	gga	ata	gcc	acc	acc	ctg	480
Met	Ala	Leu	Ala	Ser	Met	Ala	Trp	Leu	Ser	Gly	Ile	Ala	Thr	Thr	Leu	
145					150					155					160	
gta	cag	tcc	acc	ctc	acc	ctg	cag	ctg	ccc	ttc	tgt	ggg	cat	cgc	caa	528
Val	Gln	Ser	Thr	Leu	Thr	Leu	Gln	Leu	Pro	Phe	Cys	Gly	His	Arg	Gln	
				165					170					175		
gtg	gat	cat	ttc	atc	tgc	gag	gtc	cct	gtg	ctc	atc	aag	ctg	gct	tgt	576
Val	Asp	His	Phe	Ile	Cys	Glu	Val	Pro	Val	Leu	Ile	Lys	Leu	Ala	Cys	
			180					185					190			
gtg	ggc	acc	acg	ttt	aac	gag	gct	gag	ctt	ttt	gtg	gct	agt	atc	ctt	624
Val	Gly	Thr	Thr	Phe	Asn	Glu	Ala	Glu	Leu	Phe	Val	Ala	Ser	Ile	Leu	
		195					200					205				
ttc	ctt	ata	gtg	cct	gtc	tca	ttc	atc	ctg	gtc	tcc	tct	ggc	tac	att	672
Phe	Leu	Ile	Val	Pro	Val	Ser	Phe	Ile	Leu	Val	Ser	Ser	Gly	Tyr	Ile	
	210					215					220					
gcc	cac	gca	gtg	ttg	agg	att	aag	tca	gct	acc	agg	aga	cag	aaa	gca	720
Ala	His	Ala	Val	Leu	Arg	Ile	Lys	Ser	Ala	Thr	Arg	Arg	Gln	Lys	Ala	
225					230					235					240	
ttc	ggg	acc	tgc	ttc	tcc	cac	ctg	aca	gtg	gtc	acc	atc	ttt	tat	gga	768
Phe	Gly	Thr	Cys	Phe	Ser	His	Leu	Thr	Val	Val	Thr	Ile	Phe	Tyr	Gly	

245										250					255					
acc	atc	atc	ttc	atg	tat	ctg	cag	cca	gcc	aag	agt	aga	tcc	agg	gac	816				
Thr	Ile	Ile	Phe	Met	Tyr	Leu	Gln	Pro	Ala	Lys	Ser	Arg	Ser	Arg	Asp					
			260					265					270							
cag	ggc	aag	ttt	gtt	tct	ctc	ttc	tac	act	gtg	gta	acc	cgc	atg	ctt	864				
Gln	Gly	Lys	Phe	Val	Ser	Leu	Phe	Tyr	Thr	Val	Val	Thr	Arg	Met	Leu					
		275					280					285								
aac	cct	ctt	att	tat	acc	ttg	agg	atc	aag	gag	gtg	aaa	ggg	gca	tta	912				
Asn	Pro	Leu	Ile	Tyr	Thr	Leu	Arg	Ile	Lys	Glu	Val	Lys	Gly	Ala	Leu					
	290					295					300									
aag	aaa	gtt	cta	gca	aag	gct	ctg	gga	gta	aat	att	tta	tga			954				
Lys	Lys	Val	Leu	Ala	Lys	Ala	Leu	Gly	Val	Asn	Ile	Leu								
305					310				315											

<210> 328  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 328

Met	Gly	Met	Val	Arg	His	Thr	Asn	Glu	Ser	Asn	Leu	Ala	Gly	Phe	Ile
1			5						10					15	

Leu	Leu	Gly	Phe	Ser	Asp	Tyr	Pro	Gln	Leu	Gln	Lys	Val	Leu	Phe	Val
		20						25					30		

Leu	Ile	Leu	Ile	Leu	Tyr	Leu	Leu	Thr	Ile	Leu	Gly	Asn	Thr	Thr	Ile
	35					40						45			

Ile	Leu	Val	Ser	Arg	Leu	Glu	Pro	Lys	Leu	His	Met	Pro	Met	Tyr	Phe
	50					55					60				

Phe	Leu	Ser	His	Leu	Ser	Phe	Leu	Tyr	Arg	Cys	Phe	Thr	Ser	Ser	Val
65					70					75					80

Ile	Pro	Gln	Leu	Leu	Val	Asn	Leu	Trp	Glu	Pro	Met	Lys	Thr	Ile	Ala
			85						90					95	

Tyr	Gly	Gly	Cys	Leu	Val	His	Leu	Tyr	Asn	Ser	His	Ala	Leu	Gly	Ser
			100					105					110		

Thr	Glu	Cys	Val	Leu	Pro	Ala	Leu	Met	Ser	Cys	Asp	Arg	Tyr	Val	Ala
		115					120					125			

Val	Cys	Arg	Pro	Leu	His	Tyr	Thr	Val	Leu	Met	His	Ile	His	Leu	Cys
	130					135					140				

Met Ala Leu Ala Ser Met Ala Trp Leu Ser Gly Ile Ala Thr Thr Leu  
145 150 155 160

Val Gln Ser Thr Leu Thr Leu Gln Leu Pro Phe Cys Gly His Arg Gln  
165 170 175

Val Asp His Phe Ile Cys Glu Val Pro Val Leu Ile Lys Leu Ala Cys  
180 185 190

Val Gly Thr Thr Phe Asn Glu Ala Glu Leu Phe Val Ala Ser Ile Leu  
195 200 205

Phe Leu Ile Val Pro Val Ser Phe Ile Leu Val Ser Ser Gly Tyr Ile  
210 215 220

Ala His Ala Val Leu Arg Ile Lys Ser Ala Thr Arg Arg Gln Lys Ala  
225 230 235 240

Phe Gly Thr Cys Phe Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly  
245 250 255

Thr Ile Ile Phe Met Tyr Leu Gln Pro Ala Lys Ser Arg Ser Arg Asp  
260 265 270

Gln Gly Lys Phe Val Ser Leu Phe Tyr Thr Val Val Thr Arg Met Leu  
275 280 285

Asn Pro Leu Ile Tyr Thr Leu Arg Ile Lys Glu Val Lys Gly Ala Leu  
290 295 300

Lys Lys Val Leu Ala Lys Ala Leu Gly Val Asn Ile Leu  
305 310 315

<210> 329  
<211> 927  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (924)  
<223>

<400> 329  
atg gac aca ggc aac aaa act ctg ccc cag gac ttt ctc tta ctg ggc  
Met Asp Thr Gly Asn Lys Thr Leu Pro Gln Asp Phe Leu Leu Leu Gly  
1 5 10 15

48

ttt cct ggt tct caa act ctt cag ctc tct ctc ttt atg ctt ttt ctg Phe Pro Gly Ser Gln Thr Leu Gln Leu Ser Leu Phe Met Leu Phe Leu 20 25 30	96
gtg atg tac atc ctc aca gtt agt ggt aat gtg gct atc ttg atg ttg Val Met Tyr Ile Leu Thr Val Ser Gly Asn Val Ala Ile Leu Met Leu 35 40 45	144
gtg agc acc tcc cat cag ttg cat acc ccc atg tac ttc ttt ctg agc Val Ser Thr Ser His Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser 50 55 60	192
aac ctc tcc ttc ctg gag att tgg tat acc aca gca gca gtg ccc aaa Asn Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Ala Val Pro Lys 65 70 75 80	240
gca ctg gcc atc cta ctg ggg aga agt cag acc ata tca ttt aca agc Ala Leu Ala Ile Leu Leu Gly Arg Ser Gln Thr Ile Ser Phe Thr Ser 85 90 95	288
tgt ctt ttg cag atg tac ttt gtt ttc tca tta ggc tgc aca gag tac Cys Leu Leu Gln Met Tyr Phe Val Phe Ser Leu Gly Cys Thr Glu Tyr 100 105 110	336
ttc ctc ctg gca gcc atg gct tat gac cgc tgt ctt gcc atc tgc tat Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Cys Leu Ala Ile Cys Tyr 115 120 125	384
cct tta cac tac gga gcc atc atg agt agc ctg ctc tca gcg cag ctg Pro Leu His Tyr Gly Ala Ile Met Ser Ser Leu Leu Ser Ala Gln Leu 130 135 140	432
gcc ctg ggc tcc tgg gtg tgt ggt ttc gtg gcc att gca gtg ccc aca Ala Leu Gly Ser Trp Val Cys Gly Phe Val Ala Ile Ala Val Pro Thr 145 150 155 160	480
gcc ctc atc agt ggc ctg tcc ttc tgt ggc ccc cgt gcc atc aac cac Ala Leu Ile Ser Gly Leu Ser Phe Cys Gly Pro Arg Ala Ile Asn His 165 170 175	528
ttc ttc tgt gac att gca ccc tgg att gcc ctg gcc tgc acc aac aca Phe Phe Cys Asp Ile Ala Pro Trp Ile Ala Leu Ala Cys Thr Asn Thr 180 185 190	576
cag gca gta gag ctt gtg gcc ttt gtg att gct gtt gtg gtt atc ctg Gln Ala Val Glu Leu Val Ala Phe Val Ile Ala Val Val Val Ile Leu 195 200 205	624
agt tca tgc ctc atc acc ttt gtc tcc tat gtg tac atc atc agc acc Ser Ser Cys Leu Ile Thr Phe Val Ser Tyr Val Tyr Ile Ile Ser Thr 210 215 220	672
atc ctc agg atc ccc tct gcc agt ggc cgg agc aaa gcc ttc tcc acg Ile Leu Arg Ile Pro Ser Ala Ser Gly Arg Ser Lys Ala Phe Ser Thr 225 230 235 240	720
tgc tcc tcg cat ctc acc gtg gtg ctc att tgg tat ggg tcc aca gtt Cys Ser Ser His Leu Thr Val Val Leu Ile Trp Tyr Gly Ser Thr Val 245 250 255	768
ttc ctt cac gtc cgc acc tct atc aaa gat gcc ttg gat ctg atc aaa	816

Phe Leu His Val Arg Thr Ser Ile Lys Asp Ala Leu Asp Leu Ile Lys  
 260 265 270  
 gct gtc cac gtc ctg aac act gtg gtg act cca gtt tta aac ccc ttc 864  
 Ala Val His Val Leu Asn Thr Val Val Thr Pro Val Leu Asn Pro Phe  
 275 280 285  
 atc tat acg ctt cgt aat aag gaa gta aga gag act ctg ctg aag aaa 912  
 Ile Tyr Thr Leu Arg Asn Lys Glu Val Arg Glu Thr Leu Leu Lys Lys  
 290 295 300  
 tgg aag gga aaa taa 927  
 Trp Lys Gly Lys  
 305

<210> 330  
 <211> 308  
 <212> PRT  
 <213> Homo Sapiens

<400> 330

Met Asp Thr Gly Asn Lys Thr Leu Pro Gln Asp Phe Leu Leu Leu Gly  
 1 5 10 15

Phe Pro Gly Ser Gln Thr Leu Gln Leu Ser Leu Phe Met Leu Phe Leu  
 20 25 30

Val Met Tyr Ile Leu Thr Val Ser Gly Asn Val Ala Ile Leu Met Leu  
 35 40 45

Val Ser Thr Ser His Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Ala Val Pro Lys  
 65 70 75 80

Ala Leu Ala Ile Leu Leu Gly Arg Ser Gln Thr Ile Ser Phe Thr Ser  
 85 90 95

Cys Leu Leu Gln Met Tyr Phe Val Phe Ser Leu Gly Cys Thr Glu Tyr  
 100 105 110

Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Cys Leu Ala Ile Cys Tyr  
 115 120 125

Pro Leu His Tyr Gly Ala Ile Met Ser Ser Leu Leu Ser Ala Gln Leu  
 130 135 140

Ala Leu Gly Ser Trp Val Cys Gly Phe Val Ala Ile Ala Val Pro Thr  
 145 150 155 160



Ala Leu Ile Ser Gly Leu Ser Phe Cys Gly Pro Arg Ala Ile Asn His  
                           165                          170                          175

Phe Phe Cys Asp Ile Ala Pro Trp Ile Ala Leu Ala Cys Thr Asn Thr  
                           180                          185                          190

Gln Ala Val Glu Leu Val Ala Phe Val Ile Ala Val Val Val Ile Leu  
                           195                          200                          205

Ser Ser Cys Leu Ile Thr Phe Val Ser Tyr Val Tyr Ile Ile Ser Thr  
                           210                          215                          220

Ile Leu Arg Ile Pro Ser Ala Ser Gly Arg Ser Lys Ala Phe Ser Thr  
                           225                          230                          235                          240

Cys Ser Ser His Leu Thr Val Val Leu Ile Trp Tyr Gly Ser Thr Val  
                           245                          250                          255

Phe Leu His Val Arg Thr Ser Ile Lys Asp Ala Leu Asp Leu Ile Lys  
                           260                          265                          270

Ala Val His Val Leu Asn Thr Val Val Thr Pro Val Leu Asn Pro Phe  
                           275                          280                          285

Ile Tyr Thr Leu Arg Asn Lys Glu Val Arg Glu Thr Leu Leu Lys Lys  
                           290                          295                          300

Trp Lys Gly Lys  
                           305

<210> 331  
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 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(954)  
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<400> 331  
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 Met Glu Glu Tyr Asn Thr Ser Ser Thr Asp Phe Thr Phe Met Gly Leu  
                           1                          5                          10                          15

ttc aac aga aag gaa acc tca ggt ctt att ttt gcc atc atc tct atc 96  
 Phe Asn Arg Lys Glu Thr Ser Gly Leu Ile Phe Ala Ile Ile Ser Ile  
                           20                          25                          30

atc ttc ttc acc gca ctg atg gcc aat ggg gtt atg atc ttc ctg atc Ile Phe Phe Thr Ala Leu Met Ala Asn Gly Val Met Ile Phe Leu Ile 35 40 45	144
caa aca gat ttg cgc ctt cat aca ccc atg tac ttc ctc ctc agc cac Gln Thr Asp Leu Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser His 50 55 60	192
ctt tcc tta att gac atg atg tat att tcc act att gtg cct aag atg Leu Ser Leu Ile Asp Met Met Tyr Ile Ser Thr Ile Val Pro Lys Met 65 70 75 80	240
ctg gtt aat tac ctg ctg gat caa agg acc att tcc ttt gtg ggg tgc Leu Val Asn Tyr Leu Leu Asp Gln Arg Thr Ile Ser Phe Val Gly Cys 85 90 95	288
aca gct caa cac ttc ctc tac ctt acc ctt gtg gga gct gaa ttc ttc Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Val Gly Ala Glu Phe Phe 100 105 110	336
ctg ctg ggc ctc atg gcc tat gac cgc tat gtg gcc att tgc aac cct Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro 115 120 125	384
ctg aga tac cct gtc ctc atg agc cgc cgg gtc tgt tgg atg att ata Leu Arg Tyr Pro Val Leu Met Ser Arg Arg Val Cys Trp Met Ile Ile 130 135 140	432
gca ggt tcc tgg ttt ggg ggc tct ttg gat ggc ttc ctc cta acc ccc Ala Gly Ser Trp Phe Gly Gly Ser Leu Asp Gly Phe Leu Leu Thr Pro 145 150 155 160	480
atc acc atg agc ttt ccc ttc tgc aat tcc cgg gag att aac cac ttc Ile Thr Met Ser Phe Pro Phe Cys Asn Ser Arg Glu Ile Asn His Phe 165 170 175	528
ttc tgt gag gca cca gca gtc ctg aag ttg gca tgt gca gac aca gcc Phe Cys Glu Ala Pro Ala Val Leu Lys Leu Ala Cys Ala Asp Thr Ala 180 185 190	576
ctc tac gag aca gtg atg tat gtg tgc tgt gtt ttg atg ctg ctg att Leu Tyr Glu Thr Val Met Tyr Val Cys Cys Val Leu Met Leu Leu Ile 195 200 205	624
cct ttc tct gta gtc ctt gct tcc tat gcc cga atc ctg act aca gtt Pro Phe Ser Val Val Leu Ala Ser Tyr Ala Arg Ile Leu Thr Thr Val 210 215 220	672
cag tgc atg agc tca gtg gag ggc agg aag aag gca ttt gcc act tgc Gln Cys Met Ser Ser Val Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys 225 230 235 240	720
tca tcc cac atg act gtg gtg tcc ttg ttc tac ggg gct gcc atg tac Ser Ser His Met Thr Val Val Ser Leu Phe Tyr Gly Ala Ala Met Tyr 245 250 255	768
acc tac atg ctg cca cat tct tac cac aag cca gcc cag gac aaa gtc Thr Tyr Met Leu Pro His Ser Tyr His Lys Pro Ala Gln Asp Lys Val 260 265 270	816

ctc tct gtg ttt tac acc att ctc aca ccc atg ctg aac ccc ctc atc 864  
 Leu Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu Ile  
                   275                                  280                                  285

tac agc ctt aga aac aag gat gtg act gga gct ctg aag agg gcc ttg 912  
 Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Lys Arg Ala Leu  
                   290                                  295                                  300

ggg agg ttc aag ggt cct caa agg gtg tca gga ggt gtc ttt tga 957  
 Gly Arg Phe Lys Gly Pro Gln Arg Val Ser Gly Gly Val Phe  
                   305                                  310                                  315

<210> 332

<211> 318

<212> PRT

<213> Homo Sapiens

<400> 332

Met Glu Glu Tyr Asn Thr Ser Ser Thr Asp Phe Thr Phe Met Gly Leu  
 1                                  5                                  10                                  15

Phe Asn Arg Lys Glu Thr Ser Gly Leu Ile Phe Ala Ile Ile Ser Ile  
                   20                                  25                                  30

Ile Phe Phe Thr Ala Leu Met Ala Asn Gly Val Met Ile Phe Leu Ile  
                   35                                  40                                  45

Gln Thr Asp Leu Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser His  
                   50                                  55                                  60

Leu Ser Leu Ile Asp Met Met Tyr Ile Ser Thr Ile Val Pro Lys Met  
 65                                  70                                  75                                  80

Leu Val Asn Tyr Leu Leu Asp Gln Arg Thr Ile Ser Phe Val Gly Cys  
                   85                                  90                                  95

Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Val Gly Ala Glu Phe Phe  
                   100                                  105                                  110

Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro  
                   115                                  120                                  125

Leu Arg Tyr Pro Val Leu Met Ser Arg Arg Val Cys Trp Met Ile Ile  
                   130                                  135                                  140

Ala Gly Ser Trp Phe Gly Gly Ser Leu Asp Gly Phe Leu Leu Thr Pro  
 145                                  150                                  155                                  160

Ile Thr Met Ser Phe Pro Phe Cys Asn Ser Arg Glu Ile Asn His Phe

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<210> 333
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<212> DNA
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Met Gly Met Glu Gly Leu Leu Gln Asn Ser Thr Asn Phe Val Leu Thr																	
1 5 10 15																	
ggc ctc atc acc cat cct gcc ttc ccc ggg ctt ctc ttt gca ata gtc	96																
Gly Leu Ile Thr His Pro Ala Phe Pro Gly Leu Leu Phe Ala Ile Val																	
20 25 30																	
ttc tcc atc ttt gtg gtg gct ata aca gcc aac ttg gtc atg att ctg	144																
Phe Ser Ile Phe Val Val Ala Ile Thr Ala Asn Leu Val Met Ile Leu																	

35	40	45	
ctc atc cac atg gac tcc cgc ctc cac aca ccc atg tac ttc ttg ctc Leu Ile His Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu 50 55 60			192
agc cag ctc tcc atc atg gat acc atc tac atc tgt atc act gtc ccc Ser Gln Leu Ser Ile Met Asp Thr Ile Tyr Ile Cys Ile Thr Val Pro 65 70 75 80			240
aag atg ctc cag gac ctc ctg tcc aag gac aag acc att tcc ttc ctg Lys Met Leu Gln Asp Leu Leu Ser Lys Asp Lys Thr Ile Ser Phe Leu 85 90 95			288
ggc tgt gca gtt cag atc ttc ctc tac ctg acc ctg att gga ggg gaa Gly Cys Ala Val Gln Ile Phe Leu Tyr Leu Thr Leu Ile Gly Gly Glu 100 105 110			336
ttc ttc ctg ctg ggt ctc atg gcc tat gac cgc tat gtg gct gtg tgc Phe Phe Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Cys 115 120 125			384
aac cct cta cgg tac cct ctc ctc atg aac cgc agg gtt tgc tta ttc Asn Pro Leu Arg Tyr Pro Leu Leu Met Asn Arg Arg Val Cys Leu Phe 130 135 140			432
atg gtg gtc ggc tcc tgg gtt ggt ggt tcc ttg gat ggg ttc atg ctg Met Val Val Gly Ser Trp Val Gly Gly Ser Leu Asp Gly Phe Met Leu 145 150 155 160			480
act cct gtc act atg agt ttc ccc ttc tgt aga tcc cga gag atc aat Thr Pro Val Thr Met Ser Phe Pro Phe Cys Arg Ser Arg Glu Ile Asn 165 170 175			528
cac ttt ttc tgt gag atc cca gcc gtg ctg aag ttg tct tgc aca gac His Phe Phe Cys Glu Ile Pro Ala Val Leu Lys Leu Ser Cys Thr Asp 180 185 190			576
acg tca ctc tat gag acc ctg atg tat gcc tgc tgc gtg ctg atg ctg Thr Ser Leu Tyr Glu Thr Leu Met Tyr Ala Cys Cys Val Leu Met Leu 195 200 205			624
ctt atc cct cta tct gtc atc tct gtc tcc tac acg cac atc ctc ctg Leu Ile Pro Leu Ser Val Ile Ser Val Ser Tyr Thr His Ile Leu Leu 210 215 220			672
act gtc cac agg atg aac tct gct gag ggc cgg cgc aaa gcc ttt gct Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Arg Lys Ala Phe Ala 225 230 235 240			720
acg tgt tcc tcc cac att atg gtg gtg agc gtt ttc tac ggg gca gcc Thr Cys Ser Ser His Ile Met Val Val Ser Val Phe Tyr Gly Ala Ala 245 250 255			768
ttc tac acc aac gtg ctg ccc cac tcc tac cac act cca gag aaa gat Phe Tyr Thr Asn Val Leu Pro His Ser Tyr His Thr Pro Glu Lys Asp 260 265 270			816
aaa gtg gtg tct gcc ttc tac acc atc ctc acc ccc atg ctc aac cca Lys Val Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro 275 280 285			864

ctc atc tac agc ttg agg aat aaa gat gtg gct gca gct ctg agg aaa 912  
 Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ala Ala Leu Arg Lys  
           290                                  295                                  300

gta cta ggg aga tgt ggt tcc tcc cag agc atc agg gtg gcg act gtg 960  
 Val Leu Gly Arg Cys Gly Ser Ser Gln Ser Ile Arg Val Ala Thr Val  
           305                                  310                                  315                                  320

atc agg aag ggc tag 975  
 Ile Arg Lys Gly

<210> 334  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 334

Met Gly Met Glu Gly Leu Leu Gln Asn Ser Thr Asn Phe Val Leu Thr  
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Gly Leu Ile Thr His Pro Ala Phe Pro Gly Leu Leu Phe Ala Ile Val  
                                   20                                  25                                  30

Phe Ser Ile Phe Val Val Ala Ile Thr Ala Asn Leu Val Met Ile Leu  
                                   35                                  40                                  45

Leu Ile His Met Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu  
                                   50                                  55                                  60

Ser Gln Leu Ser Ile Met Asp Thr Ile Tyr Ile Cys Ile Thr Val Pro  
   65                                  70                                  75                                  80

Lys Met Leu Gln Asp Leu Leu Ser Lys Asp Lys Thr Ile Ser Phe Leu  
                                   85                                  90                                  95

Gly Cys Ala Val Gln Ile Phe Leu Tyr Leu Thr Leu Ile Gly Gly Glu  
                                   100                                  105                                  110

Phe Phe Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Cys  
                                   115                                  120                                  125

Asn Pro Leu Arg Tyr Pro Leu Leu Met Asn Arg Arg Val Cys Leu Phe  
                                   130                                  135                                  140

Met Val Val Gly Ser Trp Val Gly Gly Ser Leu Asp Gly Phe Met Leu  
   145                                  150                                  155                                  160

Thr Pro Val Thr Met Ser Phe Pro Phe Cys Arg Ser Arg Glu Ile Asn  
165 170 175

His Phe Phe Cys Glu Ile Pro Ala Val Leu Lys Leu Ser Cys Thr Asp  
180 185 190

Thr Ser Leu Tyr Glu Thr Leu Met Tyr Ala Cys Cys Val Leu Met Leu  
195 200 205

Leu Ile Pro Leu Ser Val Ile Ser Val Ser Tyr Thr His Ile Leu Leu  
210 215 220

Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Arg Lys Ala Phe Ala  
225 230 235 240

Thr Cys Ser Ser His Ile Met Val Val Ser Val Phe Tyr Gly Ala Ala  
245 250 255

Phe Tyr Thr Asn Val Leu Pro His Ser Tyr His Thr Pro Glu Lys Asp  
260 265 270

Lys Val Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro  
275 280 285

Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Ala Ala Ala Leu Arg Lys  
290 295 300

Val Leu Gly Arg Cys Gly Ser Ser Gln Ser Ile Arg Val Ala Thr Val  
305 310 315 320

Ile Arg Lys Gly

<210> 335  
<211> 948  
<212> DNA  
<213> Homo Sapiens

<220>  
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<222> (1) .. (945) .  
<223>

<400> 335  
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Met Ala Asn Ile Thr Arg Met Ala Asn His Thr Gly Lys Leu Asp Phe  
1 5 10 15

atc ctc atg gga ctc ttc aga cga tcc aaa cat cca gct cta ctt agt 96

Ile	Leu	Met	Gly	Leu	Phe	Arg	Arg	Ser	Lys	His	Pro	Ala	Leu	Leu	Ser		
			20					25					30				
gtg	gtc	atc	ttt	gtg	gtt	ttc	ctg	aag	gcg	ttg	tct	gga	aat	gct	gtc		144
Val	Val	Ile	Phe	Val	Val	Phe	Leu	Lys	Ala	Leu	Ser	Gly	Asn	Ala	Val		
		35					40					45					
ctg	atc	ctt	ctg	ata	cac	tgt	gac	gcc	cac	ctc	cac	agc	ccc	atg	tac		192
Leu	Ile	Leu	Leu	Ile	His	Cys	Asp	Ala	His	Leu	His	Ser	Pro	Met	Tyr		
	50					55					60						
ttt	ttc	atc	agt	caa	ttg	tct	ctc	atg	gac	atg	gcg	tac	att	tct	gtc		240
Phe	Phe	Ile	Ser	Gln	Leu	Ser	Leu	Met	Asp	Met	Ala	Tyr	Ile	Ser	Val		
65					70				75					80			
act	gtg	ccc	aag	atg	ctc	ctg	gac	cag	gtc	atg	ggg	gtg	aat	aag	gtc		288
Thr	Val	Pro	Lys	Met	Leu	Leu	Asp	Gln	Val	Met	Gly	Val	Asn	Lys	Val		
			85					90					95				
tca	gcc	cct	gag	tgt	ggg	atg	cag	atg	ttc	ctc	tat	ctg	aca	cta	gca		336
Ser	Ala	Pro	Glu	Cys	Gly	Met	Gln	Met	Phe	Leu	Tyr	Leu	Thr	Leu	Ala		
			100				105						110				
ggg	tcg	gaa	ttt	ttc	ctt	cta	gcc	acc	atg	gcc	tat	gac	cgc	tac	gtg		384
Gly	Ser	Glu	Phe	Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	Val		
		115					120					125					
gcc	atc	tgc	cat	cct	ctc	cgt	tac	cct	gtc	ctc	atg	aac	cat	agg	gtc		432
Ala	Ile	Cys	His	Pro	Leu	Arg	Tyr	Pro	Val	Leu	Met	Asn	His	Arg	Val		
	130					135					140						
tgt	ctt	ttc	ctg	gca	tcg	ggc	tgc	tgg	ttc	ctg	ggc	tca	gtg	gat	ggc		480
Cys	Leu	Phe	Leu	Ala	Ser	Gly	Cys	Trp	Phe	Leu	Gly	Ser	Val	Asp	Gly		
145					150					155					160		
ttc	atg	ctc	act	ccc	atc	acc	atg	agc	ttc	ccc	ttc	tgc	aga	tcc	tgg		528
Phe	Met	Leu	Thr	Pro	Ile	Thr	Met	Ser	Phe	Pro	Phe	Cys	Arg	Ser	Trp		
				165					170					175			
gag	att	cat	cat	ttc	ttc	tgt	gaa	gtc	cct	gct	gta	acg	atc	ctg	tcc		576
Glu	Ile	His	His	Phe	Phe	Cys	Glu	Val	Pro	Ala	Val	Thr	Ile	Leu	Ser		
			180					185					190				
tgc	tca	gac	acc	tca	ctc	tat	gag	acc	ctc	atg	tac	cta	tgc	tgt	gtc		624
Cys	Ser	Asp	Thr	Ser	Leu	Tyr	Glu	Thr	Leu	Met	Tyr	Leu	Cys	Cys	Val		
		195					200					205					
ctc	atg	ctc	ctc	atc	cct	gtg	acg	atc	att	tca	agc	tcc	tat	tta	ctc		672
Leu	Met	Leu	Leu	Ile	Pro	Val	Thr	Ile	Ile	Ser	Ser	Ser	Tyr	Leu	Leu		
	210					215					220						
atc	ctc	ctc	acc	gtc	cac	agg	atg	aac	tca	gca	gag	ggc	cgg	aaa	aag		720
Ile	Leu	Leu	Thr	Val	His	Arg	Met	Asn	Ser	Ala	Glu	Gly	Arg	Lys	Lys		
225					230					235					240		
gcc	ttt	gcc	acc	tgc	tcc	tcc	cac	ctg	act	gtg	gtc	atc	ctc	ttc	tat		768
Ala	Phe	Ala	Thr	Cys	Ser	Ser	His	Leu	Thr	Val	Val	Ile	Leu	Phe	Tyr		
				245					250				255				
ggg	gct	gcc	gtc	tac	acc	tac	atg	ctc	ccc	agc	tcc	tac	cac	acc	cct		816
Gly	Ala	Ala	Val	Tyr	Thr	Tyr	Met	Leu	Pro	Ser	Ser	Tyr	His	Thr	Pro		



260	265	270	
gag aag gac atg atg gta tct gtc ttc tat acc atc ctc act ccg gtg			864
Glu Lys Asp Met Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Val			
275	280	285	
ctg aac cct tta atc tat agt ctt agg aat aag gat gtc atg ggg gct			912
Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Met Gly Ala			
290	295	300	
ctg aag aaa atg tta act gtg aga ttc gtc ctt tag			948
Leu Lys Lys Met Leu Thr Val Arg Phe Val Leu			
305	310	315	
<210>	336		
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<212>	PRT		
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Met Ala Asn Ile Thr Arg Met Ala Asn His Thr Gly Lys Leu Asp Phe			
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Ile Leu Met Gly Leu Phe Arg Arg Ser Lys His Pro Ala Leu Leu Ser			
20	25	30	
Val Val Ile Phe Val Val Phe Leu Lys Ala Leu Ser Gly Asn Ala Val			
35	40	45	
Leu Ile Leu Leu Ile His Cys Asp Ala His Leu His Ser Pro Met Tyr			
50	55	60	
Phe Phe Ile Ser Gln Leu Ser Leu Met Asp Met Ala Tyr Ile Ser Val			
65	70	75	80
Thr Val Pro Lys Met Leu Leu Asp Gln Val Met Gly Val Asn Lys Val			
85	90	95	
Ser Ala Pro Glu Cys Gly Met Gln Met Phe Leu Tyr Leu Thr Leu Ala			
100	105	110	
Gly Ser Glu Phe Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val			
115	120	125	
Ala Ile Cys His Pro Leu Arg Tyr Pro Val Leu Met Asn His Arg Val			
130	135	140	
Cys Leu Phe Leu Ala Ser Gly Cys Trp Phe Leu Gly Ser Val Asp Gly			
145	150	155	160

Phe Met Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Arg Ser Trp  
 165 170 175

Glu Ile His His Phe Phe Cys Glu Val Pro Ala Val Thr Ile Leu Ser  
 180 185 190

Cys Ser Asp Thr Ser Leu Tyr Glu Thr Leu Met Tyr Leu Cys Cys Val  
 195 200 205

Leu Met Leu Leu Ile Pro Val Thr Ile Ile Ser Ser Ser Tyr Leu Leu  
 210 215 220

Ile Leu Leu Thr Val His Arg Met Asn Ser Ala Glu Gly Arg Lys Lys  
 225 230 235 240

Ala Phe Ala Thr Cys Ser Ser His Leu Thr Val Val Ile Leu Phe Tyr  
 245 250 255

Gly Ala Ala Val Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr Pro  
 260 265 270

Glu Lys Asp Met Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Val  
 275 280 285

Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Met Gly Ala  
 290 295 300

Leu Lys Lys Met Leu Thr Val Arg Phe Val Leu  
 305 310 315

<210> 337  
 <211> 993  
 <212> DNA  
 <213> Homo Sapiens

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 <222> (1) .. (990)  
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<400> 337  
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 Met Gly Leu Phe Arg Gln Ser Lys His Pro Met Ala Asn Ile Thr Trp  
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atg gcc aac cac act gga tgg tcg gat ttc atc ctg ttg gga ctc ttc 96  
 Met Ala Asn His Thr Gly Trp Ser Asp Phe Ile Leu Leu Gly Leu Phe  
 20 25 30

aga caa tcc aaa cat cca gca cta ctt tgt gtg gtc att ttt gtg gtt	144
Arg Gln Ser Lys His Pro Ala Leu Leu Cys Val Val Ile Phe Val Val	
35 40 45	
ttc ctg atg gcg ttg tct gga aat gct gtc ctg atc ctt ctg ata cac	192
Phe Leu Met Ala Leu Ser Gly Asn Ala Val Leu Ile Leu Leu Ile His	
50 55 60	
tgt gac gcc cac ctc cac acc ccc atg tac ttt ttc atc agt caa ttg	240
Cys Asp Ala His Leu His Thr Pro Met Tyr Phe Phe Ile Ser Gln Leu	
65 70 75 80	
tct ctc atg gac atg gcg tac att tct gtc act gtg ccc aag atg ctc	288
Ser Leu Met Asp Met Ala Tyr Ile Ser Val Thr Val Pro Lys Met Leu	
85 90 95	
ctg gac cag gtc atg ggt gtg aat aag atc tca gcc cct gag tgt ggg	336
Leu Asp Gln Val Met Gly Val Asn Lys Ile Ser Ala Pro Glu Cys Gly	
100 105 110	
atg cag atg ttc ttc tac gtg aca cta gca ggt tca gaa ttt ttc ctt	384
Met Gln Met Phe Phe Tyr Val Thr Leu Ala Gly Ser Glu Phe Phe Leu	
115 120 125	
cta gcc acc atg gcc tat gac cgc tac gtg gcc atc tgc cat cct ctc	432
Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu	
130 135 140	
cgt tac cct gtc ctc atg aac cat agg gtg tgt ctc ttc ctg tca tca	480
Arg Tyr Pro Val Leu Met Asn His Arg Val Cys Leu Phe Leu Ser Ser	
145 150 155 160	
ggc tgc tgg ttc ctg ggc tca gtg gat ggc ttc aca ttc act ccc atc	528
Gly Cys Trp Phe Leu Gly Ser Val Asp Gly Phe Thr Phe Thr Pro Ile	
165 170 175	
acc atg acc ttc ccc ttc cgt gga tcc cgg gag att cat cat ttc ttc	576
Thr Met Thr Phe Pro Phe Arg Gly Ser Arg Glu Ile His His Phe Phe	
180 185 190	
tgt gaa gtt cct gct gta ttg aat ctc tcc tgc tca gac acc tca ctc	624
Cys Glu Val Pro Ala Val Leu Asn Leu Ser Cys Ser Asp Thr Ser Leu	
195 200 205	
tat gag att ttc atg tac ttg tgc tgt gtc ctc atg ctc ctc atc cct	672
Tyr Glu Ile Phe Met Tyr Leu Cys Cys Val Leu Met Leu Leu Ile Pro	
210 215 220	
gtg gtg atc att tca agc tcc tat tta ctc atc ctc ctc acc atc cac	720
Val Val Ile Ile Ser Ser Ser Tyr Leu Leu Ile Leu Leu Thr Ile His	
225 230 235 240	
ggg atg aac tca gca gag ggc cgg aaa aag gcc ttt gcc acc tgc tcc	768
Gly Met Asn Ser Ala Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys Ser	
245 250 255	
tcc cac ctg act gtg gtc atc ctc ttc tat ggg gct gcc atc tac acc	816
Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ala Ala Ile Tyr Thr	
260 265 270	
tac atg ctc ccc agc tcc tac cac acc cct gag aag gac atg atg gta	864

Tyr Met Leu Pro Ser Ser Tyr His Thr Pro Glu Lys Asp Met Met Val  
 275 280 285  
 tct gtc ttc tat acc atc ctc act cca gtg gtg aac cct tta atc tat 912  
 Ser Val Phe Tyr Thr Ile Leu Thr Pro Val Val Asn Pro Leu Ile Tyr  
 290 295 300  
 agt ctt agg aat aag gat gtc atg ggg gct ctg aag aaa atg tta aca 960  
 Ser Leu Arg Asn Lys Asp Val Met Gly Ala Leu Lys Lys Met Leu Thr  
 305 310 315 320  
 gtg gaa cct gcc ttt caa aaa gct atg gag tag 993  
 Val Glu Pro Ala Phe Gln Lys Ala Met Glu  
 325 330

<210> 338  
 <211> 330  
 <212> PRT  
 <213> Homo Sapiens

<400> 338

Met Gly Leu Phe Arg Gln Ser Lys His Pro Met Ala Asn Ile Thr Trp  
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Met Ala Asn His Thr Gly Trp Ser Asp Phe Ile Leu Leu Gly Leu Phe  
 20 25 30

Arg Gln Ser Lys His Pro Ala Leu Leu Cys Val Val Ile Phe Val Val  
 35 40 45

Phe Leu Met Ala Leu Ser Gly Asn Ala Val Leu Ile Leu Leu Ile His  
 50 55 60

Cys Asp Ala His Leu His Thr Pro Met Tyr Phe Phe Ile Ser Gln Leu  
 65 70 75 80

Ser Leu Met Asp Met Ala Tyr Ile Ser Val Thr Val Pro Lys Met Leu  
 85 90 95

Leu Asp Gln Val Met Gly Val Asn Lys Ile Ser Ala Pro Glu Cys Gly  
 100 105 110

Met Gln Met Phe Phe Tyr Val Thr Leu Ala Gly Ser Glu Phe Phe Leu  
 115 120 125

Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu  
 130 135 140

Arg Tyr Pro Val Leu Met Asn His Arg Val Cys Leu Phe Leu Ser Ser  
 145 150 155 160

Gly Cys Trp Phe Leu Gly Ser Val Asp Gly Phe Thr Phe Thr Pro Ile  
 165 170 175

Thr Met Thr Phe Pro Phe Arg Gly Ser Arg Glu Ile His His Phe Phe  
 180 185 190

Cys Glu Val Pro Ala Val Leu Asn Leu Ser Cys Ser Asp Thr Ser Leu  
 195 200 205

Tyr Glu Ile Phe Met Tyr Leu Cys Cys Val Leu Met Leu Leu Ile Pro  
 210 215 220

Val Val Ile Ile Ser Ser Ser Tyr Leu Leu Ile Leu Leu Thr Ile His  
 225 230 235 240

Gly Met Asn Ser Ala Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys Ser  
 245 250 255

Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ala Ala Ile Tyr Thr  
 260 265 270

Tyr Met Leu Pro Ser Ser Tyr His Thr Pro Glu Lys Asp Met Met Val  
 275 280 285

Ser Val Phe Tyr Thr Ile Leu Thr Pro Val Val Asn Pro Leu Ile Tyr  
 290 295 300

Ser Leu Arg Asn Lys Asp Val Met Gly Ala Leu Lys Lys Met Leu Thr  
 305 310 315 320

Val Glu Pro Ala Phe Gln Lys Ala Met Glu  
 325 330

<210> 339  
 <211> 940  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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<400> 339  
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 1 . 5 10 15

48

ttc acc ctc acg gga ctc ttt gct gag agc aag cat gct gcc ctc ctc	96
Phe Thr Leu Thr Gly Leu Phe Ala Glu Ser Lys His Ala Ala Leu Leu	
20 25 30	
tac acc gtg acc ttc ctt ctt ttc ttg atg gcc ctc act ggg aat gcc	144
Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala	
35 40 45	
ctc ctc atc ctc ctc atc cac tca gag ccc cgc ctc cac acc ccc atg	192
Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met	
50 55 60	
tac ttc ttc atc agc cag ctc gcg ctc atg gat ctc atg tac cta tgc	240
Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys	
65 70 75 80	
gtg act gtg ccc aag atg ctt gtg ggc cag gtc act gga gat gat acc	288
Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr	
85 90 95	
att tcc ccg tca ggc tgt ggg atc cag atg ttc ttc tac ctg acc ctg	336
Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu	
100 105 110	
gct gga gct gag gtt ttc ctc ctg gct gcc atg gcc tat gac cga tat	384
Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr	
115 120 125	
gct gct gtt tgc aga cct ctc cat tac cca ctg ctg atg aac cag agg	432
Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Leu Met Asn Gln Arg	
130 135 140	
gtg tgc cag ctc ctg gtg tca gcc tgc tgg gtt ttg gga atg gtt gat	480
Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp	
145 150 155 160	
ggg ttg ttg ctc acc ccc att acc atg agc ttc ccc ttt tgc cag tct	528
Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser	
165 170 175	
agg aaa atc ctg agt ttt ttc tgt gag act cct gcc ctg ctg aag ctc	576
Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu	
180 185 190	
tcc tgc tct gac gtc tcc ctc tat aag acg ctc atg tac ctg tgc tgc	624
Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys	
195 200 205	
atc ctc atg ctt ctc gcc ccc atc atg gtc atc tcc agc tca tac acc	672
Ile Leu Met Leu Leu Ala Pro Ile Met Val Ile Ser Ser Ser Tyr Thr	
210 215 220	
ctc atc ctg cat ctc atc cac agg atg aat tct gcc gcc ggc cac agg	720
Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg	
225 230 235 240	
aag gcc ttg gcc acc tgc tcc tcc cac atg atc ata gtg ctg ctg ctc	768
Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu	
245 250 255	

ttc ggt gct tcc ttc tac acc tac atg ctc ccg agt tcc tac cac aca 816  
 Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr  
                   260                                  265                                  270

gct gag cag gac atg atg gtg tct gcc ttt tac acc atc ttc act cct 864  
 Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro  
                   275                                  280                                  285

gtg ctg aac ccc ctc att tac agt ctc cgc aac aaa gat gtc acc agg 912  
 Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Arg  
                   290                                  295                                  300

gct atg agg agc atg atg cag tca aga a 940  
 Ala Met Arg Ser Met Met Gln Ser Arg  
 305                                  310

<210> 340

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 340

Met Cys Ser Gly Asn Gln Thr Ser Gln Asn Gln Thr Ala Ser Thr Asp  
 1                  5                                  10                                  15

Phe Thr Leu Thr Gly Leu Phe Ala Glu Ser Lys His Ala Ala Leu Leu  
                   20                                  25                                  30

Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala  
                   35                                  40                                  45

Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met  
                   50                                  55                                  60

Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys  
 65                                  70                                  75                                  80

Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr  
                   85                                  90                                  95

Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu  
                   100                                  105                                  110

Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr  
                   115                                  120                                  125

Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Leu Met Asn Gln Arg  
                   130                                  135                                  140

Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp

145                                      150                                      155                                      160  
 Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser  
    165                                      170                                      175  
 Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu  
    180                                      185                                      190  
 Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys  
    195                                      200                                      205  
 Ile Leu Met Leu Leu Ala Pro Ile Met Val Ile Ser Ser Ser Tyr Thr  
    210                                      215                                      220  
 Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg  
    225                                      230                                      235                                      240  
 Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu  
    245                                      250                                      255  
 Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr  
    260                                      265                                      270  
 Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro  
    275                                      280                                      285  
 Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Arg  
    290                                      295                                      300  
 Ala Met Arg Ser Met Met Gln Ser Arg  
    305                                      310

<210> 341  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (936)  
 <223>

<400> 341  
 atg ccc aat tca acc acc gtg atg gaa ttt ctc ctc atg agg ttt tct                                      48  
 Met Pro Asn Ser Thr Val Met Glu Phe Leu Leu Met Arg Phe Ser  
 1                                      5                                      10                                      15  
 gat gtg tgg aca cta cag att tta cat tct gca tcc ttc ttt atg ttg                                      96  
 Asp Val Trp Thr Leu Gln Ile Leu His Ser Ala Ser Phe Phe Met Leu



20	25	30	
tat ttg gta act cta atg gga aac atc ctc att gtg acc gtc acc acc			144
Tyr Leu Val Thr Leu Met Gly Asn Ile Leu Ile Val Thr Val Thr Thr			
35	40	45	
tgt gac agc agc ctt cac atg ccc atg tac ttc ttc ctc agg aat ctg			192
Cys Asp Ser Ser Leu His Met Pro Met Tyr Phe Phe Leu Arg Asn Leu			
50	55	60	
tct atc ttg gat gcc tgc tac att tct gtt aca gtc cct acc tca tgt			240
Ser Ile Leu Asp Ala Cys Tyr Ile Ser Val Thr Val Pro Thr Ser Cys			
65	70	75	80
gtc aat tcc cta ctg gac agc acc acc att tct aag gcg gga tgt gta			288
Val Asn Ser Leu Leu Asp Ser Thr Thr Ile Ser Lys Ala Gly Cys Val			
85	90	95	
gct cag gtc ttc ctc gtg gtt ttt ttt gta tat gtg gag ctt ctg ttt			336
Ala Gln Val Phe Leu Val Val Phe Phe Val Tyr Val Glu Leu Leu Phe			
100	105	110	
ctc acc att atg gct cat gac cgc tat gtg gct gtc tgc cag cca ctt			384
Leu Thr Ile Met Ala His Asp Arg Tyr Val Ala Val Cys Gln Pro Leu			
115	120	125	
cac tac cct gtg atc gtg aac tct cga atc tgc atc cag atg aca ctg			432
His Tyr Pro Val Ile Val Asn Ser Arg Ile Cys Ile Gln Met Thr Leu			
130	135	140	
gcc tcc cta ctc agt ggt ctt gtc tat gca ggc atg cac act ggc agc			480
Ala Ser Leu Leu Ser Gly Leu Val Tyr Ala Gly Met His Thr Gly Ser			
145	150	155	160
aca ttc cag ctg ccc ttc tgt cgg tcc aac gtt att cat caa ttc ttc			528
Thr Phe Gln Leu Pro Phe Cys Arg Ser Asn Val Ile His Gln Phe Phe			
165	170	175	
tgt gac atc ccc tct ctg ctg aag ctc tct tgc tct gac acc ttc agc			576
Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr Phe Ser			
180	185	190	
aat gag gtc atg att gtt gtc tct gct ctg ggg gta ggt ggc ggc tgt			624
Asn Glu Val Met Ile Val Val Ser Ala Leu Gly Val Gly Gly Gly Cys			
195	200	205	
ttc atc ttt atc atc agg tct tac att cac atc ttt tgc acc gtg ctc			672
Phe Ile Phe Ile Ile Arg Ser Tyr Ile His Ile Phe Ser Thr Val Leu			
210	215	220	
ggg ttt cca aga gga gca gac aga aca aag gcc ttt tcc acc tgc atc			720
Gly Phe Pro Arg Gly Ala Asp Arg Thr Lys Ala Phe Ser Thr Cys Ile			
225	230	235	240
cct cac atc ctg gtg gtg tca gtc ttc ctc agt tca tgc tct tct gtg			768
Pro His Ile Leu Val Val Ser Val Phe Leu Ser Ser Cys Ser Ser Val			
245	250	255	
tac ctc agg cca cct gcg ata cct gca gcc acc cag gat ctg atc ctt			816
Tyr Leu Arg Pro Pro Ala Ile Pro Ala Ala Thr Gln Asp Leu Ile Leu			
260	265	270	

tct ggt ttt tat tcc ata atg cct ccc ctc ttt aac cct att att tac 864  
 Ser Gly Phe Tyr Ser Ile Met Pro Pro Leu Phe Asn Pro Ile Ile Tyr  
           275                                  280                                  285

agt ctt aga aat aag caa ata aag gtg gcc atc aag aaa atc atg aag 912  
 Ser Leu Arg Asn Lys Gln Ile Lys Val Ala Ile Lys Lys Ile Met Lys  
           290                                  295                                  300

aga att ttt tat tca gaa aat gtg taa 939  
 Arg Ile Phe Tyr Ser Glu Asn Val  
           305                                  310

<210> 342  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 342

Met Pro Asn Ser Thr Thr Val Met Glu Phe Leu Leu Met Arg Phe Ser  
 1                                  5                                  10                                  15

Asp Val Trp Thr Leu Gln Ile Leu His Ser Ala Ser Phe Phe Met Leu  
           20                                  25                                  30

Tyr Leu Val Thr Leu Met Gly Asn Ile Leu Ile Val Thr Val Thr Thr  
           35                                  40                                  45

Cys Asp Ser Ser Leu His Met Pro Met Tyr Phe Phe Leu Arg Asn Leu  
           50                                  55                                  60

Ser Ile Leu Asp Ala Cys Tyr Ile Ser Val Thr Val Pro Thr Ser Cys  
 65                                  70                                  75                                  80

Val Asn Ser Leu Leu Asp Ser Thr Thr Ile Ser Lys Ala Gly Cys Val  
           85                                  90                                  95

Ala Gln Val Phe Leu Val Val Phe Phe Val Tyr Val Glu Leu Leu Phe  
           100                                  105                                  110

Leu Thr Ile Met Ala His Asp Arg Tyr Val Ala Val Cys Gln Pro Leu  
           115                                  120                                  125

His Tyr Pro Val Ile Val Asn Ser Arg Ile Cys Ile Gln Met Thr Leu  
           130                                  135                                  140

Ala Ser Leu Leu Ser Gly Leu Val Tyr Ala Gly Met His Thr Gly Ser  
 145                                  150                                  155                                  160

Thr Phe Gln Leu Pro Phe Cys Arg Ser Asn Val Ile His Gln Phe Phe  
165 170 175

Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr Phe Ser  
180 185 190

Asn Glu Val Met Ile Val Val Ser Ala Leu Gly Val Gly Gly Gly Cys  
195 200 205

Phe Ile Phe Ile Ile Arg Ser Tyr Ile His Ile Phe Ser Thr Val Leu  
210 215 220

Gly Phe Pro Arg Gly Ala Asp Arg Thr Lys Ala Phe Ser Thr Cys Ile  
225 230 235 240

Pro His Ile Leu Val Val Ser Val Phe Leu Ser Ser Cys Ser Ser Val  
245 250 255

Tyr Leu Arg Pro Pro Ala Ile Pro Ala Ala Thr Gln Asp Leu Ile Leu  
260 265 270

Ser Gly Phe Tyr Ser Ile Met Pro Pro Leu Phe Asn Pro Ile Ile Tyr  
275 280 285

Ser Leu Arg Asn Lys Gln Ile Lys Val Ala Ile Lys Lys Ile Met Lys  
290 295 300

Arg Ile Phe Tyr Ser Glu Asn Val  
305 310

<210> 343  
<211> 942  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (939)  
<223>

<400>	343	
atg ggg cag acc aac gta acc tcc tgg agg gat ttt gtc ttc ctg ggc		48
Met Gly Gln Thr Asn Val Thr Ser Trp Arg Asp Phe Val Phe Leu Gly		
1 5 10 15		
ttc tcc agt tct ggg gag ttg cag ctc ctt ctc ttt gcc ttg ttc ctc		96
Phe Ser Ser Ser Gly Glu Leu Gln Leu Leu Leu Phe Ala Leu Phe Leu		
20 25 30		
tct ctg tat cta gtc act ctg acc agc aat gtc ttc att atc ata gcc		144

Ser	Leu	Tyr	Leu	Val	Thr	Leu	Thr	Ser	Asn	Val	Phe	Ile	Ile	Ile	Ala		
		35					40					45					
atc	agg	ctg	gat	agc	cat	ctg	cac	acc	ccc	atg	tac	ctc	ttc	ctt	tcc	192	
Ile	Arg	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Leu	Phe	Leu	Ser		
	50					55				60							
ttc	cta	tcc	ttc	tct	gag	acc	tgc	tac	act	ttg	ggc	atc	atc	cct	aga	240	
Phe	Leu	Ser	Phe	Ser	Glu	Thr	Cys	Tyr	Thr	Leu	Gly	Ile	Ile	Pro	Arg		
65					70				75						80		
atg	ctc	tct	ggc	ctg	gct	ggg	ggg	gac	cag	gct	atc	tcc	tat	gtg	ggc	288	
Met	Leu	Ser	Gly	Leu	Ala	Gly	Gly	Asp	Gln	Ala	Ile	Ser	Tyr	Val	Gly		
				85				90						95			
tgt	gct	gcc	cag	atg	ttc	ttt	tct	gcc	tca	tgg	gcc	tgt	act	aac	tgc	336	
Cys	Ala	Ala	Gln	Met	Phe	Phe	Ser	Ala	Ser	Trp	Ala	Cys	Thr	Asn	Cys		
			100					105					110				
ttc	ctt	ctg	gct	gcc	atg	ggc	ttt	gac	aga	tat	gtg	gcc	atc	tgt	gct	384	
Phe	Leu	Leu	Ala	Ala	Met	Gly	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ala		
		115					120					125					
cca	ctc	cac	tat	gcc	agc	cac	atg	aat	cct	acc	ctc	tgt	gcc	cag	ctg	432	
Pro	Leu	His	Tyr	Ala	Ser	His	Met	Asn	Pro	Thr	Leu	Cys	Ala	Gln	Leu		
		130				135					140						
gtc	att	act	tcc	ttc	ctg	act	gga	tac	ctc	ttt	gga	ctg	gga	atg	aca	480	
Val	Ile	Thr	Ser	Phe	Leu	Thr	Gly	Tyr	Leu	Phe	Gly	Leu	Gly	Met	Thr		
145					150					155					160		
cta	gtt	att	ttc	cac	ctc	tca	ttc	tgc	agc	tcc	cat	gaa	atc	cag	cac	528	
Leu	Val	Ile	Phe	His	Leu	Ser	Phe	Cys	Ser	Ser	His	Glu	Ile	Gln	His		
				165					170					175			
ttt	ttt	tgt	gac	acg	cca	cct	gtg	ctg	agc	cta	gcc	tgt	gga	gat	aca	576	
Phe	Phe	Cys	Asp	Thr	Pro	Pro	Val	Leu	Ser	Leu	Ala	Cys	Gly	Asp	Thr		
			180					185					190				
ggc	ccg	agt	gag	ctg	agg	atc	ttt	atc	ctc	agt	ctt	ttg	gtc	ctc	ttg	624	
Gly	Pro	Ser	Glu	Leu	Arg	Ile	Phe	Ile	Leu	Ser	Leu	Leu	Val	Leu	Leu		
		195				200						205					
gtc	tcc	ttc	ttc	ttc	atc	acc	atc	tcc	tac	gcc	tac	atc	ttg	gca	gca	672	
Val	Ser	Phe	Phe	Phe	Ile	Thr	Ile	Ser	Tyr	Ala	Tyr	Ile	Leu	Ala	Ala		
		210				215					220						
ata	ctg	agg	atc	ccc	tct	gct	gag	ggg	cag	aag	aag	gcc	ttc	tcc	act	720	
Ile	Leu	Arg	Ile	Pro	Ser	Ala	Glu	Gly	Gln	Lys	Lys	Ala	Phe	Ser	Thr		
225					230					235					240		
tgt	gcc	tgc	cac	ctt	aca	gtg	gtc	att	att	cat	tat	ggc	tgt	gct	tcc	768	
Cys	Ala	Ser	His	Leu	Thr	Val	Val	Ile	Ile	His	Tyr	Gly	Cys	Ala	Ser		
				245					250					255			
ttc	gtg	tac	ctg	agg	ccc	aaa	gcc	agc	tac	tct	ctt	gag	aga	gat	cag	816	
Phe	Val	Tyr	Leu	Arg	Pro	Lys	Ala	Ser	Tyr	Ser	Leu	Glu	Arg	Asp	Gln		
			260					265					270				
ctt	att	gcc	atg	acc	tat	act	gta	gtg	acc	ccc	ctc	ctt	aat	ccc	att	864	
Leu	Ile	Ala	Met	Thr	Tyr	Thr	Val	Val	Thr	Pro	Leu	Leu	Asn	Pro	Ile		

275                      280                      285  
 gtt tat agt cta agg act agg gct ata cag aca gct ctg agg aat gct 912  
 Val Tyr Ser Leu Arg Thr Arg Ala Ile Gln Thr Ala Leu Arg Asn Ala  
 290                      295                      300  
 ttc aga ggg aga ttg ctg ggt aaa gga tga 942  
 Phe Arg Gly Arg Leu Leu Gly Lys Gly  
 305                      310

<210> 344  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 344

Met Gly Gln Thr Asn Val Thr Ser Trp Arg Asp Phe Val Phe Leu Gly  
1                      5                      10                      15

Phe Ser Ser Ser Gly Glu Leu Gln Leu Leu Leu Phe Ala Leu Phe Leu  
20                      25                      30

Ser Leu Tyr Leu Val Thr Leu Thr Ser Asn Val Phe Ile Ile Ile Ala  
35                      40                      45

Ile Arg Leu Asp Ser His Leu His Thr Pro Met Tyr Leu Phe Leu Ser  
50                      55                      60

Phe Leu Ser Phe Ser Glu Thr Cys Tyr Thr Leu Gly Ile Ile Pro Arg  
65                      70                      75                      80

Met Leu Ser Gly Leu Ala Gly Gly Asp Gln Ala Ile Ser Tyr Val Gly  
85                      90                      95

Cys Ala Ala Gln Met Phe Phe Ser Ala Ser Trp Ala Cys Thr Asn Cys  
100                      105                      110

Phe Leu Leu Ala Ala Met Gly Phe Asp Arg Tyr Val Ala Ile Cys Ala  
115                      120                      125

Pro Leu His Tyr Ala Ser His Met Asn Pro Thr Leu Cys Ala Gln Leu  
130                      135                      140

Val Ile Thr Ser Phe Leu Thr Gly Tyr Leu Phe Gly Leu Gly Met Thr  
145                      150                      155                      160

Leu Val Ile Phe His Leu Ser Phe Cys Ser Ser His Glu Ile Gln His  
165                      170                      175

Phe Phe Cys Asp Thr Pro Pro Val Leu Ser Leu Ala Cys Gly Asp Thr  
180 185 190

Gly Pro Ser Glu Leu Arg Ile Phe Ile Leu Ser Leu Leu Val Leu Leu  
195 200 205

Val Ser Phe Phe Phe Ile Thr Ile Ser Tyr Ala Tyr Ile Leu Ala Ala  
210 215 220

Ile Leu Arg Ile Pro Ser Ala Glu Gly Gln Lys Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ala Ser His Leu Thr Val Val Ile Ile His Tyr Gly Cys Ala Ser  
245 250 255

Phe Val Tyr Leu Arg Pro Lys Ala Ser Tyr Ser Leu Glu Arg Asp Gln  
260 265 270

Leu Ile Ala Met Thr Tyr Thr Val Val Thr Pro Leu Leu Asn Pro Ile  
275 280 285

Val Tyr Ser Leu Arg Thr Arg Ala Ile Gln Thr Ala Leu Arg Asn Ala  
290 295 300

Phe Arg Gly Arg Leu Leu Gly Lys Gly  
305 310

<210> 345  
<211> 975  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (972)  
<223>

<400> 345  
atg gag agc ccc aat cga acc acc att cag gag ttt atc ttc tcc gct 48  
Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala  
1 5 10 15

ttc cct tat tcc tgg gtt aag tct gtt gtc tgc ttt gtt cca ctg ctc 96  
Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu  
20 25 30

ttc atc tat gct ttc att gtt gtt gga aac ctg gtc atc atc aca gtg 144  
Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val  
35 40 45

gtc cag ttg aat act cac ctc cac act ccc atg tat act ttt atc agt	192
Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser	
50 55 60	
gct ctt tct ttc ctg gag att tgg tat acc aca gcc aca atc cca aag	240
Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys	
65 70 75 80	
atg ctg tct agc ctg ctt agt gag agg agc att tcc ttc aat ggt tgt	288
Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys	
85 90 95	
ctc ctg cag atg tat ttc ttc cat tcc acc ggc atc tgt gag gtg tgt	336
Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys	
100 105 110	
ctc ttg aca gtt atg gcc ttt gac cac tac ctg gcc ata tgc agc cct	384
Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro	
115 120 125	
ctt cat tat ccc tct atc atg acc ccc aag cta tgt acc caa ctg act	432
Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr	
130 135 140	
tta agt tgc tgt gtt tgt ggc ttt atc aca ccc ctt cct gag att gcc	480
Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala	
145 150 155 160	
tgg atc tct aca ctg cca ttt tgt ggt tgc aat cac ctt gaa cat atc	528
Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile	
165 170 175	
ttc tgt gac ttc ctc cca gtg ctg cgt ctg gcc tgc aca gac aca cga	576
Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg	
180 185 190	
gcc atc gtc atg att cag gta gtg gat gtc att cat gca gtg gag att	624
Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile	
195 200 205	
att aca gct gtg atg ctc atc ttc atg tcc tac gat ggt att gtg gct	672
Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala	
210 215 220	
gta att cta cgt att cat tca gct gga ggc cgc cgc aca gca ttt tcc	720
Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser	
225 230 235 240	
acg tgt gtc tct cac ttc att gtc ttt tgc ctc ttc ttt ggc agt gtg	768
Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val	
245 250 255	
act ctc atg tac cta cgc ttc tct gcc acc tac tct ttg ttc tgg gat	816
Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp	
260 265 270	
ata gcc att gct ctg gcc ttt gca gtt ttg tct ccc ttc ttc aac ccc	864
Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro	
275 280 285	
att atc tat agc ctg agg aat aaa gaa ata aaa gaa gct ata aaa aag	912

Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys  
 290 295 300  
 cac ata ggt caa gct aag ata ttt ttt tcc gta aga cca ggg acc tca 960  
 His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser  
 305 310 315 320

agt aag ata ttt tag 975  
 Ser Lys Ile Phe

<210> 346  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 346

Met Glu Ser Pro Asn Arg Thr Thr Ile Gln Glu Phe Ile Phe Ser Ala  
 1 5 10 15

Phe Pro Tyr Ser Trp Val Lys Ser Val Val Cys Phe Val Pro Leu Leu  
 20 25 30

Phe Ile Tyr Ala Phe Ile Val Val Gly Asn Leu Val Ile Ile Thr Val  
 35 40 45

Val Gln Leu Asn Thr His Leu His Thr Pro Met Tyr Thr Phe Ile Ser  
 50 55 60

Ala Leu Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys  
 65 70 75 80

Met Leu Ser Ser Leu Leu Ser Glu Arg Ser Ile Ser Phe Asn Gly Cys  
 85 90 95

Leu Leu Gln Met Tyr Phe Phe His Ser Thr Gly Ile Cys Glu Val Cys  
 100 105 110

Leu Leu Thr Val Met Ala Phe Asp His Tyr Leu Ala Ile Cys Ser Pro  
 115 120 125

Leu His Tyr Pro Ser Ile Met Thr Pro Lys Leu Cys Thr Gln Leu Thr  
 130 135 140

Leu Ser Cys Cys Val Cys Gly Phe Ile Thr Pro Leu Pro Glu Ile Ala  
 145 150 155 160

Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn His Leu Glu His Ile  
 165 170 175



Phe Cys Asp Phe Leu Pro Val Leu Arg Leu Ala Cys Thr Asp Thr Arg  
 180 185 190

Ala Ile Val Met Ile Gln Val Val Asp Val Ile His Ala Val Glu Ile  
 195 200 205

Ile Thr Ala Val Met Leu Ile Phe Met Ser Tyr Asp Gly Ile Val Ala  
 210 215 220

Val Ile Leu Arg Ile His Ser Ala Gly Gly Arg Arg Thr Ala Phe Ser  
 225 230 235 240

Thr Cys Val Ser His Phe Ile Val Phe Ser Leu Phe Phe Gly Ser Val  
 245 250 255

Thr Leu Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Leu Phe Trp Asp  
 260 265 270

Ile Ala Ile Ala Leu Ala Phe Ala Val Leu Ser Pro Phe Phe Asn Pro  
 275 280 285

Ile Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Glu Ala Ile Lys Lys  
 290 295 300

His Ile Gly Gln Ala Lys Ile Phe Phe Ser Val Arg Pro Gly Thr Ser  
 305 310 315 320

Ser Lys Ile Phe

<210> 347  
 <211> 954  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(951)  
 <223>

<400> 347  
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 Met Asp Gln Tyr Asn His Ser Ser Leu Ala Glu Phe Val Phe Leu Gly  
 1 5 10 15  
 ttt gcc agt gtg ggc tat gtc agg ggc tgg ctt ttt gtc ctg ctg cta 96  
 Phe Ala Ser Val Gly Tyr Val Arg Gly Trp Leu Phe Val Leu Leu Leu  
 20 25 30

ttg gca tac ctg ttc acc atc tgt ggt aac atg ctc atc ttc tca gtc	144
Leu Ala Tyr Leu Phe Thr Ile Cys Gly Asn Met Leu Ile Phe Ser Val	
35 40 45	
atc cga ctg gat gca gct ctg cac aca cct atg tac cac ttt gtc agt	192
Ile Arg Leu Asp Ala Ala Leu His Thr Pro Met Tyr His Phe Val Ser	
50 55 60	
gtt ctt tcc ttc ttg gag ttg tgg tat aca gct acc act atc cct aag	240
Val Leu Ser Phe Leu Glu Leu Trp Tyr Thr Ala Thr Thr Ile Pro Lys	
65 70 75 80	
atg ttg tct aat att ctg agt gag aag aaa acc att tct ttt gca gga	288
Met Leu Ser Asn Ile Leu Ser Glu Lys Lys Thr Ile Ser Phe Ala Gly	
85 90 95	
tgc ctc ctt cag acc tac ttc ttc cac tcc ttg gga gcg tct gaa tgc	336
Cys Leu Leu Gln Thr Tyr Phe Phe His Ser Leu Gly Ala Ser Glu Cys	
100 105 110	
tac ctt ctt aca gcc atg gcc tat gat aga tac ctg gcc att tgt cgg	384
Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg	
115 120 125	
ccc ctc cac tac cct ata att atg acc acc aca ctc tgt gcc aag atg	432
Pro Leu His Tyr Pro Ile Ile Met Thr Thr Thr Leu Cys Ala Lys Met	
130 135 140	
gct gct gct tgt tgg act tgt ggc ttc ctg tgt ccc att tct gag gtc	480
Ala Ala Ala Cys Trp Thr Cys Gly Phe Leu Cys Pro Ile Ser Glu Val	
145 150 155 160	
atc ctt gcc tcc cag ctc cca ttt tgt gct tac aat gaa atc caa cac	528
Ile Leu Ala Ser Gln Leu Pro Phe Cys Ala Tyr Asn Glu Ile Gln His	
165 170 175	
att ttc tgt gac ttt cca cct ttg ctg agc ttg gcc tgc aag gac aca	576
Ile Phe Cys Asp Phe Pro Pro Leu Leu Ser Leu Ala Cys Lys Asp Thr	
180 185 190	
tct gct aac att ctg gtg gac ttt gcc att aat gct ttc ata att ctt	624
Ser Ala Asn Ile Leu Val Asp Phe Ala Ile Asn Ala Phe Ile Ile Leu	
195 200 205	
atc act ttc ttc ttt atc atg att tct tat gca agg atc att ggg gct	672
Ile Thr Phe Phe Phe Ile Met Ile Ser Tyr Ala Arg Ile Ile Gly Ala	
210 215 220	
gtg ctg aag ata aaa aca gca tca gga aga aag aag gcc ttt tct acc	720
Val Leu Lys Ile Lys Thr Ala Ser Gly Arg Lys Lys Ala Phe Ser Thr	
225 230 235 240	
tgt gcc tca cat ctt gct gtg gtc ctc atc ttc ttt ggg agc atc atc	768
Cys Ala Ser His Leu Ala Val Val Leu Ile Phe Phe Gly Ser Ile Ile	
245 250 255	
ttc atg tat gtg cgg cta aag aag agc tat tcc ctg acc ctt gac cga	816
Phe Met Tyr Val Arg Leu Lys Lys Ser Tyr Ser Leu Thr Leu Asp Arg	
260 265 270	

Ile Leu Ala Ser Gln Leu Pro Phe Cys Ala Tyr Asn Glu Ile Gln His

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Met	Thr	Gln	Leu	Thr	Ala	Ser	Gly	Asn	Gln	Thr	Met	Val	Thr	Glu	Phe				
1				5				10						15					
ctc	ttc	tct	atg	ttc	ccg	cat	gcg	cac	aga	ggg	ggc	ctc	tta	ttc	ttt				96
Leu	Phe	Ser	Met	Phe	Pro	His	Ala	His	Arg	Gly	Gly	Leu	Leu	Phe	Phe				
			20				25						30						
att	ccc	ttg	ctt	ctc	atc	tac	gga	ttt	atc	cta	act	gga	aac	cta	ata				144
Ile	Pro	Leu	Leu	Leu	Ile	Tyr	Gly	Phe	Ile	Leu	Thr	Gly	Asn	Leu	Ile				

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atg ttc att gtc atc cag gtg ggc atg gcc ctg cac acc cct ttg tat			192
Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr			
50	55	60	
ttc ttt atc agt gtc ctc tcc ttc ctg gag atc tgc tat acc aca acc			240
Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr			
65	70	75	80
acc atc ccc aag atg ctg tcc tgc cta atc agt gag cag aag agc att			288
Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile			
	85	90	95
tcc gtg gct ggc tgc ctc ctg cag atg tac ttt ttc cac tca ctt ggt			336
Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly			
	100	105	110
atc aca gaa agc tgt gtc ctg aca gca atg gcc att gac agg tac ata			384
Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile			
	115	120	125
gct atc tgc aat cca ctc cgt tac cca acc atc atg att ccc aaa ctt			432
Ala Ile Cys Asn Pro Leu Arg Tyr Pro Thr Ile Met Ile Pro Lys Leu			
	130	135	140
tgt atc cag ctg aca gtt gga tcc tgc ttt tgt ggc ttc ctc ctt gtg			480
Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val			
	145	150	155
ctt cct gag att gca tgg att tcc acc ttg cct ttc tgt ggc tcc aac			528
Leu Pro Glu Ile Ala Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn			
	165	170	175
cag atc cac cag ata ttc tgt gat ttc aca cct gtg ctg agc ttg gcc			576
Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala			
	180	185	190
tgc aca gat aca ttc cta gtg gtc att gtg gat gcc atc cat gca gcg			624
Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala			
	195	200	205
gaa att gta gcc tcc ttc ctg gtc att gct cta tcc tac atc cgg att			672
Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile			
	210	215	220
att ata gtg att ctg gga atg cac tca gct gaa ggt cat cac aag gcc			720
Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala			
	225	230	235
ttt tcc acc tgt gct gct cac ctt gct gtg ttc ttg cta ttt ttt ggc			768
Phe Ser Thr Cys Ala Ala His Leu Ala Val Phe Leu Leu Phe Phe Gly			
	245	250	255
agt gtg gct gtc atg tat ttg aga ttc tca gcc acc tac tca gtg ttt			816
Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe			
	260	265	270
tgg gac aca gca att gct gtc act ttt gtt atc ctt gct ccc ttt ttc			864
Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe			
	275	280	285

aac ccc atc atc tat agc ctg aaa aac aag gac atg aaa gag gct att 912  
 Asn Pro Ile Ile Tyr Ser Leu Lys Asn Lys Asp Met Lys Glu Ala Ile  
 290 295 300

gga agg ctt ttc cac tat cag aag agg gct ggt tgg gct ggg aaa tag 960  
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 305 310 315

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Ile Pro Leu Leu Leu Ile Tyr Gly Phe Ile Leu Thr Gly Asn Leu Ile  
 35 40 45

Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr  
 50 55 60

Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr  
 65 70 75 80

Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile  
 85 90 95

Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly  
 100 105 110

Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile  
 115 120 125

Ala Ile Cys Asn Pro Leu Arg Tyr Pro Thr Ile Met Ile Pro Lys Leu  
 130 135 140

Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val  
 145 150 155 160

Leu Pro Glu Ile Ala Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn  
 165 170 175

Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala  
180 185 190

Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala  
195 200 205

Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile  
210 215 220

Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala  
225 230 235 240

Phe Ser Thr Cys Ala Ala His Leu Ala Val Phe Leu Leu Phe Phe Gly  
245 250 255

Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe  
260 265 270

Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe  
275 280 285

Asn Pro Ile Ile Tyr Ser Leu Lys Asn Lys Asp Met Lys Glu Ala Ile  
290 295 300

Gly Arg Leu Phe His Tyr Gln Lys Arg Ala Gly Trp Ala Gly Lys  
305 310 315

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Met Asn Glu Thr Asn His Ser Arg Val Thr Glu Phe Val Leu Leu Gly  
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ctg tct agt tca agg gag ctc caa cct ttc ttg ttt ctt aca ttt tca 96  
Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Thr Phe Ser  
20 25 30

cta ctt tat cta gca att ctg ttg ggc aac ttt ctc atc atc ctc act 144  
Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr  
35 40 45

gtg acc tca gat tcc cgc ctt cac acc ccc atg tac ttt ctg ctt gca 192

Val	Thr	Ser	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Ala	
50						55					60					
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Asn	Leu	Ser	Phe	Ile	Asp	Val	Cys	Val	Ala	Ser	Phe	Ala	Thr	Pro	Lys	
65					70				75						80	
atg	att	gca	gac	ttt	ctg	gtt	gag	cgc	aag	act	att	tct	ttt	gat	gcc	288
Met	Ile	Ala	Asp	Phe	Leu	Val	Glu	Arg	Lys	Thr	Ile	Ser	Phe	Asp	Ala	
				85					90					95		
tgc	ctg	gcc	cag	att	ttc	ttt	gtt	cat	ctc	ttc	act	ggc	agt	gaa	atg	336
Cys	Leu	Ala	Gln	Ile	Phe	Phe	Val	His	Leu	Phe	Thr	Gly	Ser	Glu	Met	
			100					105					110			
gtg	ctc	cta	gtt	tcc	atg	gcc	tat	gac	cgt	tat	gtt	gct	ata	tgc	aaa	384
Val	Leu	Leu	Val	Ser	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	
			115					120					125			
cct	ctc	cac	tac	atg	aca	gtc	atg	agc	cgt	cgt	gta	tgt	gtt	gtg	ctc	432
Pro	Leu	His	Tyr	Met	Thr	Val	Met	Ser	Arg	Arg	Val	Cys	Val	Val	Leu	
			130					135				140				
gtc	ctc	att	tca	tgg	ttt	gtg	ggc	ttc	atc	cat	act	acc	agc	cag	ttg	480
Val	Leu	Ile	Ser	Trp	Phe	Val	Gly	Phe	Ile	His	Thr	Thr	Ser	Gln	Leu	
145					150					155					160	
gca	ttc	act	gtt	aat	ctg	cca	ttt	tgt	ggt	cct	aat	aag	gta	gac	agt	528
Ala	Phe	Thr	Val	Asn	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Lys	Val	Asp	Ser	
				165					170					175		
ttt	ttc	tgt	gac	ctt	cct	cta	gtg	acc	aag	tta	gcc	tgc	ata	gac	act	576
Phe	Phe	Cys	Asp	Leu	Pro	Leu	Val	Thr	Lys	Leu	Ala	Cys	Ile	Asp	Thr	
			180					185					190			
tat	gtt	gtc	agc	tta	cta	ata	gtt	gca	gat	agt	ggc	ttt	ctt	tct	ctg	624
Tyr	Val	Val	Ser	Leu	Leu	Ile	Val	Ala	Asp	Ser	Gly	Phe	Leu	Ser	Leu	
			195					200					205			
agt	tcc	ttt	ctc	ctc	ttg	gtt	gtc	tcc	tac	act	gta	ata	ctt	gtt	aca	672
Ser	Ser	Phe	Leu	Leu	Leu	Val	Val	Ser	Tyr	Thr	Val	Ile	Leu	Val	Thr	
			210					215				220				
gtt	agg	aat	cgc	tcc	tct	gca	agc	atg	gcg	aag	gcc	cgc	tcc	aca	ttg	720
Val	Arg	Asn	Arg	Ser	Ser	Ala	Ser	Met	Ala	Lys	Ala	Arg	Ser	Thr	Leu	
225					230					235					240	
act	gct	cac	atc	act	gtg	gtc	act	tta	ttc	ttt	gga	cca	tgc	att	ttc	768
Thr	Ala	His	Ile	Thr	Val	Val	Thr	Leu	Phe	Phe	Gly	Pro	Cys	Ile	Phe	
				245					250					255		
atc	tat	gtg	tgg	ccc	ttc	agc	agt	tac	tca	gtt	gac	aaa	gtc	ctt	gct	816
Ile	Tyr	Val	Trp	Pro	Phe	Ser	Ser	Tyr	Ser	Val	Asp	Lys	Val	Leu	Ala	
			260					265					270			
gta	ttc	tac	acc	atc	ttc	acg	ctt	att	tta	aac	cct	gta	atc	tac	acg	864
Val	Phe	Tyr	Thr	Ile	Phe	Thr	Leu	Ile	Leu	Asn	Pro	Val	Ile	Tyr	Thr	
			275					280					285			
cta	aga	aac	aaa	gaa	gtg	aag	gca	gct	atg	tca	aaa	ctg	aag	agt	cgg	912
Leu	Arg	Asn	Lys	Glu	Val	Lys	Ala	Ala	Met	Ser	Lys	Leu	Lys	Ser	Arg	



290 295 300

tat ctg aag cct agt cag gtt tct gta gtc ata aga aat gtt ctt ttc 960  
 Tyr Leu Lys Pro Ser Gln Val Ser Val Val Ile Arg Asn Val Leu Phe  
 305 310 315 320

cta gaa aca aag taa 975  
 Leu Glu Thr Lys

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Met Asn Glu Thr Asn His Ser Arg Val Thr Glu Phe Val Leu Leu Gly  
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Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Thr Phe Ser  
 20 25 30

Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr  
 35 40 45

Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ala  
 50 55 60

Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Phe Ala Thr Pro Lys  
 65 70 75 80

Met Ile Ala Asp Phe Leu Val Glu Arg Lys Thr Ile Ser Phe Asp Ala  
 85 90 95

Cys Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr Gly Ser Glu Met  
 100 105 110

Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

Pro Leu His Tyr Met Thr Val Met Ser Arg Arg Val Cys Val Val Leu  
 130 135 140

Val Leu Ile Ser Trp Phe Val Gly Phe Ile His Thr Thr Ser Gln Leu  
 145 150 155 160

Ala Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn Lys Val Asp Ser  
 165 170 175

Phe Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Thr  
180 185 190

Tyr Val Val Ser Leu Leu Ile Val Ala Asp Ser Gly Phe Leu Ser Leu  
195 200 205

Ser Ser Phe Leu Leu Leu Val Val Ser Tyr Thr Val Ile Leu Val Thr  
210 215 220

Val Arg Asn Arg Ser Ser Ala Ser Met Ala Lys Ala Arg Ser Thr Leu  
225 230 235 240

Thr Ala His Ile Thr Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe  
245 250 255

Ile Tyr Val Trp Pro Phe Ser Ser Tyr Ser Val Asp Lys Val Leu Ala  
260 265 270

Val Phe Tyr Thr Ile Phe Thr Leu Ile Leu Asn Pro Val Ile Tyr Thr  
275 280 285

Leu Arg Asn Lys Glu Val Lys Ala Ala Met Ser Lys Leu Lys Ser Arg  
290 295 300

Tyr Leu Lys Pro Ser Gln Val Ser Val Val Ile Arg Asn Val Leu Phe  
305 310 315 320

Leu Glu Thr Lys

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Met Ala His Thr Asn Glu Ser Met Val Ser Glu Phe Val Leu Leu Gly		
1 5 10 15		
ctc tct aat tcc tgg gga ctt caa ctt ttc ttt ttt gcc atc ttc tct		96
Leu Ser Asn Ser Trp Gly Leu Gln Leu Phe Phe Phe Ala Ile Phe Ser		
20 25 30		

ata gtc tat gtg aca tca gtg cta ggc aat gtc tta att att gtc att Ile Val Tyr Val Thr Ser Val Leu Gly Asn Val Leu Ile Ile Val Ile 35 40 45	144
att tct ttt gac tcc cat ttg aac tct cct atg tac ttc ttg ctc agt Ile Ser Phe Asp Ser His Leu Asn Ser Pro Met Tyr Phe Leu Leu Ser 50 55 60	192
aat ctt tct ttc att gat atc tgt cag tct aac ttt gcc acc ccc aag Asn Leu Ser Phe Ile Asp Ile Cys Gln Ser Asn Phe Ala Thr Pro Lys 65 70 75 80	240
atg ctt gta gac ttt ttt att gag cgc aag act atc tcc ttt gag ggt Met Leu Val Asp Phe Phe Ile Glu Arg Lys Thr Ile Ser Phe Glu Gly 85 90 95	288
tgc atg gcc cag ata ttc gtt ctt cac agt ttt gtt ggg agt gag atg Cys Met Ala Gln Ile Phe Val Leu His Ser Phe Val Gly Ser Glu Met 100 105 110	336
atg ttg ctt gta gct atg gca tat gac aga ttt ata gcc ata tgt aag Met Leu Leu Val Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Lys 115 120 125	384
cct ctg cac tac agt aca att atg aac cgg agg ctc tgt gta att ttt Pro Leu His Tyr Ser Thr Ile Met Asn Arg Arg Leu Cys Val Ile Phe 130 135 140	432
gtg tct att tcc tgg gcg gtg ggc gtt ctt cat tct gtg agc cac ttg Val Ser Ile Ser Trp Ala Val Gly Val Leu His Ser Val Ser His Leu 145 150 155 160	480
gct ttt aca gtg gac ctg cca ttc tgt ggt ccc aat gag gtg gat agc Ala Phe Thr Val Asp Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser 165 170 175	528
ttc ttt tgt gac ctt ccc ttg gtg ata gag ctg gct tgc atg gat aca Phe Phe Cys Asp Leu Pro Leu Val Ile Glu Leu Ala Cys Met Asp Thr 180 185 190	576
tat gaa atg gaa att atg acc cta acg aac agt ggc ctg ata tca ttg Tyr Glu Met Glu Ile Met Thr Leu Thr Asn Ser Gly Leu Ile Ser Leu 195 200 205	624
agc tgt ttc ctg gct tta att att tcc tac acc atc att ttg atc ggt Ser Cys Phe Leu Ala Leu Ile Ile Ser Tyr Thr Ile Ile Leu Ile Gly 210 215 220	672
gtc cga tgc agg tcc tcc agt ggg tca tct aag gct ctt tct aca tta Val Arg Cys Arg Ser Ser Ser Gly Ser Ser Lys Ala Leu Ser Thr Leu 225 230 235 240	720
act gcc cac atc aca gtg gtc att ctt ttc ttc ggg cct tgc att tat Thr Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Tyr 245 250 255	768
ttc tat ata tgg cct ttt agc aga ctt cct gtg gac aaa ttt ctt tct Phe Tyr Ile Trp Pro Phe Ser Arg Leu Pro Val Asp Lys Phe Leu Ser 260 265 270	816
gtg ttc tac act gtt tgt act ccc ttg ttg aac ccc atc atc tac tct	864

Val Phe Tyr Thr Val Cys Thr Pro Leu Leu Asn Pro Ile Ile Tyr Ser  
 275 280 285

ctg agg aat gaa gat gtt aaa gca gcc atg tgg aag ctg aga aac cgt 912  
 Leu Arg Asn Glu Asp Val Lys Ala Ala Met Trp Lys Leu Arg Asn Arg  
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cat gtg aac tcc tgg aaa aac tag 936  
 His Val Asn Ser Trp Lys Asn  
 305 310

<210> 354  
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Ile Val Tyr Val Thr Ser Val Leu Gly Asn Val Leu Ile Ile Val Ile  
 35 40 45

Ile Ser Phe Asp Ser His Leu Asn Ser Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

Asn Leu Ser Phe Ile Asp Ile Cys Gln Ser Asn Phe Ala Thr Pro Lys  
 65 70 75 80

Met Leu Val Asp Phe Phe Ile Glu Arg Lys Thr Ile Ser Phe Glu Gly  
 85 90 95

Cys Met Ala Gln Ile Phe Val Leu His Ser Phe Val Gly Ser Glu Met  
 100 105 110

Met Leu Leu Val Ala Met Ala Tyr Asp Arg Phe Ile Ala Ile Cys Lys  
 115 120 125

Pro Leu His Tyr Ser Thr Ile Met Asn Arg Arg Leu Cys Val Ile Phe  
 130 135 140

Val Ser Ile Ser Trp Ala Val Gly Val Leu His Ser Val Ser His Leu  
 145 150 155 160

Ala Phe Thr Val Asp Leu Pro Phe Cys Gly Pro Asn Glu Val Asp Ser  
 165 170 175

Phe Phe Cys Asp Leu Pro Leu Val Ile Glu Leu Ala Cys Met Asp Thr  
180 185 190

Tyr Glu Met Glu Ile Met Thr Leu Thr Asn Ser Gly Leu Ile Ser Leu  
195 200 205

Ser Cys Phe Leu Ala Leu Ile Ile Ser Tyr Thr Ile Ile Leu Ile Gly  
210 215 220

Val Arg Cys Arg Ser Ser Ser Gly Ser Ser Lys Ala Leu Ser Thr Leu  
225 230 235 240

Thr Ala His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Cys Ile Tyr  
245 250 255

Phe Tyr Ile Trp Pro Phe Ser Arg Leu Pro Val Asp Lys Phe Leu Ser  
260 265 270

Val Phe Tyr Thr Val Cys Thr Pro Leu Leu Asn Pro Ile Ile Tyr Ser  
275 280 285

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290 295 300

His Val Asn Ser Trp Lys Asn  
305 310

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ctc tgc act tca cga cat ctt caa aat ttt ttc ttt ata ttt ttc ttt 96  
Leu Cys Thr Ser Arg His Leu Gln Asn Phe Phe Phe Ile Phe Phe  
20 25 30  
ggg gtc tat gtg gcc att atg ctg ggt aac ctt ctc att ttg gtc act 144  
Gly Val Tyr Val Ala Ile Met Leu Gly Asn Leu Leu Ile Leu Val Thr  
35 40 45

gta att tct gat ccc tgc ctg cac tcc tcc cct atg tac ttc ctg ctg	192
Val Ile Ser Asp Pro Cys Leu His Ser Ser Pro Met Tyr Phe Leu Leu	
50 55 60	
ggg aac cta gct ttc ctg gac atg tgg ctg gcc tca ttt gcc act ccc	240
Gly Asn Leu Ala Phe Leu Asp Met Trp Leu Ala Ser Phe Ala Thr Pro	
65 70 75 80	
aag atg atc agg gat ttc ctt agt gat caa aaa ctc atc tcc ttt gga	288
Lys Met Ile Arg Asp Phe Leu Ser Asp Gln Lys Leu Ile Ser Phe Gly	
85 90 95	
gga tgt atg gct caa atc ttc ttc ttg cac ttt act ggt ggg gct gag	336
Gly Cys Met Ala Gln Ile Phe Phe Leu His Phe Thr Gly Gly Ala Glu	
100 105 110	
atg gtg ctc ctg gtt tcc atg gcc tat gac aga tat gtg gcc ata tgc	384
Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys	
115 120 125	
aaa ccc ttg cat tac atg act ttg atg agt tgg cag act tgc atc agg	432
Lys Pro Leu His Tyr Met Thr Leu Met Ser Trp Gln Thr Cys Ile Arg	
130 135 140	
ctg gtg ctg gct tca tgg gtc gtt gga ttt gtg cac tcc atc agt caa	480
Leu Val Leu Ala Ser Trp Val Val Gly Phe Val His Ser Ile Ser Gln	
145 150 155 160	
gtg gct ttc act gta aat ttg cct tac tgt ggc ccc aat gag gta gac	528
Val Ala Phe Thr Val Asn Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp	
165 170 175	
agc ttc ttc tgt gac ctc cct ctg gtg atc aaa ctt gcc tgc atg gac	576
Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Met Asp	
180 185 190	
acc tat gtc ttg ggt ata att atg atc tca gac agt ggg ttg ctt tcc	624
Thr Tyr Val Leu Gly Ile Ile Met Ile Ser Asp Ser Gly Leu Leu Ser	
195 200 205	
ttg agc tgt ttt ctg ctc ctc ctg atc tcc tac acc gtg atc ctc ctc	672
Leu Ser Cys Phe Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu Leu	
210 215 220	
gct atc aga cag cgt gct gcc ggt agc aca tcc aaa gca ctc tcc act	720
Ala Ile Arg Gln Arg Ala Ala Gly Ser Thr Ser Lys Ala Leu Ser Thr	
225 230 235 240	
tgc tct gca cat atc atg gta gtg acg ctg ttc ttt ggc cct tgc att	768
Cys Ser Ala His Ile Met Val Val Thr Leu Phe Phe Gly Pro Cys Ile	
245 250 255	
ttt gtt tat gtg cgg cct ttc agt agg ttc tct gtg gac aag ctg ctg	816
Phe Val Tyr Val Arg Pro Phe Ser Arg Phe Ser Val Asp Lys Leu Leu	
260 265 270	
tct gtg ttt tat acc att ttt act cca ctc ctg aac ccc att atc tac	864
Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr	
275 280 285	

aca ttg aga aat gag gag atg aaa gca gct atg aag aaa ctg caa aac 912  
 Thr Leu Arg Asn Glu Glu Met Lys Ala Ala Met Lys Lys Leu Gln Asn  
 290 295 300

cga cgg gtg act ttt caa tga 933  
 Arg Arg Val Thr Phe Gln  
 305 310

<210> 356  
 <211> 310  
 <212> PRT  
 <213> Homo Sapiens

<400> 356

Met Asp Pro Gln Asn Tyr Ser Leu Val Ser Glu Phe Val Leu His Gly  
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Leu Cys Thr Ser Arg His Leu Gln Asn Phe Phe Phe Ile Phe Phe Phe  
 20 25 30

Gly Val Tyr Val Ala Ile Met Leu Gly Asn Leu Leu Ile Leu Val Thr  
 35 40 45

Val Ile Ser Asp Pro Cys Leu His Ser Ser Pro Met Tyr Phe Leu Leu  
 50 55 60

Gly Asn Leu Ala Phe Leu Asp Met Trp Leu Ala Ser Phe Ala Thr Pro  
 65 70 75 80

Lys Met Ile Arg Asp Phe Leu Ser Asp Gln Lys Leu Ile Ser Phe Gly  
 85 90 95

Gly Cys Met Ala Gln Ile Phe Phe Leu His Phe Thr Gly Gly Ala Glu  
 100 105 110

Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys  
 115 120 125

Lys Pro Leu His Tyr Met Thr Leu Met Ser Trp Gln Thr Cys Ile Arg  
 130 135 140

Leu Val Leu Ala Ser Trp Val Val Gly Phe Val His Ser Ile Ser Gln  
 145 150 155 160

Val Ala Phe Thr Val Asn Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp  
 165 170 175

Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Met Asp

180	185	190
Thr Tyr Val Leu Gly Ile Ile Met Ile Ser Asp Ser Gly Leu Leu Ser		
195	200	205
Leu Ser Cys Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu Leu		
210	215	220
Ala Ile Arg Gln Arg Ala Ala Gly Ser Thr Ser Lys Ala Leu Ser Thr		
225	230	235
Cys Ser Ala His Ile Met Val Val Thr Leu Phe Phe Gly Pro Cys Ile		
245	250	255
Phe Val Tyr Val Arg Pro Phe Ser Arg Phe Ser Val Asp Lys Leu Leu		
260	265	270
Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr		
275	280	285
Thr Leu Arg Asn Glu Glu Met Lys Ala Ala Met Lys Lys Leu Gln Asn		
290	295	300
Arg Arg Val Thr Phe Gln		
305	310	

<210> 357  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (936)  
 <223>

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Met Asp Leu Lys Asn Gly Ser Leu Val Thr Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ttt ttt gga cga tgg gaa ctt caa att ttc ttc ttt gtg aca ttt tcc	96
Phe Phe Gly Arg Trp Glu Leu Gln Ile Phe Phe Phe Val Thr Phe Ser	
20 25 30	
ctg atc tac ggt gct act gtg atg gga aac att ctc att atg gtc aca	144
Leu Ile Tyr Gly Ala Thr Val Met Gly Asn Ile Leu Ile Met Val Thr	
35 40 45	
gtg aca tgt agg tca acc ctt cat tct ccc ttg tac ttt ctc ctt gga	192
Val Thr Cys Arg Ser Thr Leu His Ser Pro Leu Tyr Phe Leu Leu Gly	



50	55	60	
aat ctc tct ttt ttg gac atg tgt ctc tcc act gcc aca aca ccc aag			240
Asn Leu Ser Phe Leu Asp Met Cys Leu Ser Thr Ala Thr Thr Pro Lys			
65	70	75	80
atg atc ata gat ttg ctc act gac cac aag acc atc tct gtg tgg ggc			288
Met Ile Ile Asp Leu Leu Thr Asp His Lys Thr Ile Ser Val Trp Gly			
	85	90	95
tgc gtg acc cag atg ttc ttc atg cac ttc ttt ggg ggt gct gag atg			336
Cys Val Thr Gln Met Phe Phe Met His Phe Phe Gly Gly Ala Glu Met			
	100	105	110
act ctt ctg ata atc atg gcc ttt gac agg tat gta gcc ata tgt aaa			384
Thr Leu Leu Ile Ile Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys			
	115	120	125
ccc ctg cac tat agg aca atc atg agc cac aag ctg cta aag ggg ttt			432
Pro Leu His Tyr Arg Thr Ile Met Ser His Lys Leu Leu Lys Gly Phe			
	130	135	140
gcg ata ctt tca tgg ata att ggt ttt tta cac tcc ata agc cag ata			480
Ala Ile Leu Ser Trp Ile Ile Gly Phe Leu His Ser Ile Ser Gln Ile			
	145	150	155
gtt tta aca atg aac ttg cct ttc tgt ggc cac aat gtc ata aac aac			528
Val Leu Thr Met Asn Leu Pro Phe Cys Gly His Asn Val Ile Asn Asn			
	165	170	175
ata ttt tgt gat ctt ccc ctt gtg atc aag ctt gct tgc att gaa aca			576
Ile Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Ile Glu Thr			
	180	185	190
tac acc ctg gaa tta ttt gtc att gct gac agc ggg ctg ctc tct ttc			624
Tyr Thr Leu Glu Leu Phe Val Ile Ala Asp Ser Gly Leu Leu Ser Phe			
	195	200	205
acc tgt ttc atc ctc ttg ctt gtt tct tac att gtc atc ctg gtc agt			672
Thr Cys Phe Ile Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Val Ser			
	210	215	220
gta cca aaa aaa tca tca cat ggg ctc tcc aag gcg ctg tcc aca ttg			720
Val Pro Lys Lys Ser Ser His Gly Leu Ser Lys Ala Leu Ser Thr Leu			
	225	230	235
tct gcc cac atc att gtg gtc act ctg ttc ttt gga cct tgt att ttt			768
Ser Ala His Ile Ile Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe			
	245	250	255
atc tat gtt tgg cca ttc agt agt ttg gca agc aat aaa act ctt gcc			816
Ile Tyr Val Trp Pro Phe Ser Ser Leu Ala Ser Asn Lys Thr Leu Ala			
	260	265	270
gta ttt tat aca gtt atc aca ccc tta ctg aat ccg agt att tat acc			864
Val Phe Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Ser Ile Tyr Thr			
	275	280	285
ctg aga aat aag aaa atg caa gag gcc ata aga aaa tta cgg ttc caa			912
Leu Arg Asn Lys Lys Met Gln Glu Ala Ile Arg Lys Leu Arg Phe Gln			
	290	295	300

tat gtt agt tct gca cag aat ttc tag  
 Tyr Val Ser Ser Ala Gln Asn Phe  
 305 310

939

<210> 358  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 358

Met Asp Leu Lys Asn Gly Ser Leu Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Phe Phe Gly Arg Trp Glu Leu Gln Ile Phe Phe Phe Val Thr Phe Ser  
 20 25 30

Leu Ile Tyr Gly Ala Thr Val Met Gly Asn Ile Leu Ile Met Val Thr  
 35 40 45

Val Thr Cys Arg Ser Thr Leu His Ser Pro Leu Tyr Phe Leu Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Met Cys Leu Ser Thr Ala Thr Thr Pro Lys  
 65 70 75 80

Met Ile Ile Asp Leu Leu Thr Asp His Lys Thr Ile Ser Val Trp Gly  
 85 90 95

Cys Val Thr Gln Met Phe Phe Met His Phe Phe Gly Gly Ala Glu Met  
 100 105 110

Thr Leu Leu Ile Ile Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Lys  
 115 120 125

Pro Leu His Tyr Arg Thr Ile Met Ser His Lys Leu Leu Lys Gly Phe  
 130 135 140

Ala Ile Leu Ser Trp Ile Ile Gly Phe Leu His Ser Ile Ser Gln Ile  
 145 150 155 160

Val Leu Thr Met Asn Leu Pro Phe Cys Gly His Asn Val Ile Asn Asn  
 165 170 175

Ile Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Ile Glu Thr  
 180 185 190

Tyr Thr Leu Glu Leu Phe Val Ile Ala Asp Ser Gly Leu Leu Ser Phe  
195 200 205

Thr Cys Phe Ile Leu Leu Leu Val Ser Tyr Ile Val Ile Leu Val Ser  
210 215 220

Val Pro Lys Lys Ser Ser His Gly Leu Ser Lys Ala Leu Ser Thr Leu  
225 230 235 240

Ser Ala His Ile Ile Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe  
245 250 255

Ile Tyr Val Trp Pro Phe Ser Ser Leu Ala Ser Asn Lys Thr Leu Ala  
260 265 270

Val Phe Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro Ser Ile Tyr Thr  
275 280 285

Leu Arg Asn Lys Lys Met Gln Glu Ala Ile Arg Lys Leu Arg Phe Gln  
290 295 300

Tyr Val Ser Ser Ala Gln Asn Phe  
305 310

<210> 359

<211> 927

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (924)

<223>

<400> 359

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Met Ala Met Asp Asn Val Thr Ala Val Phe Gln Phe Leu Leu Ile Gly  
1 5 10 15

att tct aac tat cct caa tgg aga gac acg ttt ttc aca tta gtg ctg 96  
Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu  
20 25 30

ata att tac ctc agc aca ttg ttg ggg aat gga ttt atg atc ttt ctt 144  
Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu  
35 40 45

att cac ttt gac ccc aac ctc cac act cca atc tac ttc ttc ctt agt 192  
Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser  
50 55 60

aac ctg tct ttc tta gac ctt tgt tat gga aca gct tcc atg ccc cag 240

Asn	Leu	Ser	Phe	Leu	Asp	Leu	Cys	Tyr	Gly	Thr	Ala	Ser	Met	Pro	Gln		
65					70					75					80		
gct	ttg	gtg	cat	tgt	ttc	tct	acc	cat	ccc	tac	ctc	tct	tat	ccc	cga		288
Ala	Leu	Val	His	Cys	Phe	Ser	Thr	His	Pro	Tyr	Leu	Ser	Tyr	Pro	Arg		
				85					90					95			
tgt	ttg	gct	caa	acg	agt	gtc	tcc	ttg	gct	ttg	gcc	aca	gca	gag	tgc		336
Cys	Leu	Ala	Gln	Thr	Ser	Val	Ser	Leu	Ala	Leu	Ala	Thr	Ala	Glu	Cys		
			100					105					110				
ctc	cta	ctg	gct	gcc	atg	gcc	tat	gac	cgt	gtg	gtt	gct	atc	agc	aat		384
Leu	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Val	Val	Ala	Ile	Ser	Asn		
			115				120					125					
ccc	ctg	cgt	tat	tca	gtg	gtt	atg	aat	ggc	cca	gtg	tgt	gtc	tgc	ttg		432
Pro	Leu	Arg	Tyr	Ser	Val	Val	Met	Asn	Gly	Pro	Val	Cys	Val	Cys	Leu		
	130					135					140						
gtt	gct	acc	tca	tgg	ggg	aca	tca	ctt	gtg	ctc	act	gcc	atg	ctc	atc		480
Val	Ala	Thr	Ser	Trp	Gly	Thr	Ser	Leu	Val	Leu	Thr	Ala	Met	Leu	Ile		
	145				150					155					160		
cta	tcc	ctg	agg	ctt	cac	ttc	tgt	ggg	gct	aat	gtc	atc	aac	cat	ttt		528
Leu	Ser	Leu	Arg	Leu	His	Phe	Cys	Gly	Ala	Asn	Val	Ile	Asn	His	Phe		
				165				170						175			
gcc	tgt	gag	att	ctc	tcc	ctc	att	aag	ctg	acc	tgt	tct	gat	acc	agc		576
Ala	Cys	Glu	Ile	Leu	Ser	Leu	Ile	Lys	Leu	Thr	Cys	Ser	Asp	Thr	Ser		
			180					185					190				
ctc	aat	gaa	ttt	atg	atc	ctc	atc	acc	agt	atc	ttc	acc	ctg	ctg	cta		624
Leu	Asn	Glu	Phe	Met	Ile	Leu	Ile	Thr	Ser	Ile	Phe	Thr	Leu	Leu	Leu		
		195				200						205					
cca	ttt	ggg	ttt	gtt	ctc	ctc	tcc	tac	ata	cga	att	gct	atg	gct	atc		672
Pro	Phe	Gly	Phe	Val	Leu	Leu	Ser	Tyr	Ile	Arg	Ile	Ala	Met	Ala	Ile		
	210					215					220						
ata	agg	att	cgc	tca	ctc	cag	ggc	agg	ctc	aag	gcc	ttt	acc	aca	tgt		720
Ile	Arg	Ile	Arg	Ser	Leu	Gln	Gly	Arg	Leu	Lys	Ala	Phe	Thr	Thr	Cys		
	225				230				235						240		
ggc	tct	cac	ctg	acc	gtg	gtg	aca	atc	ttc	tat	ggg	tca	gcc	atc	tcc		768
Gly	Ser	His	Leu	Thr	Val	Val	Thr	Ile	Phe	Tyr	Gly	Ser	Ala	Ile	Ser		
				245				250						255			
atg	tat	atg	aaa	act	cag	tcc	aag	tcc	tcc	cct	gac	cag	gac	aag	ttt		816
Met	Tyr	Met	Lys	Thr	Gln	Ser	Lys	Ser	Ser	Pro	Asp	Gln	Asp	Lys	Phe		
			260					265					270				
atc	tca	gtg	ttt	tat	gga	gct	ttg	aca	ccc	atg	ttg	aac	ccc	ctg	ata		864
Ile	Ser	Val	Phe	Tyr	Gly	Ala	Leu	Thr	Pro	Met	Leu	Asn	Pro	Leu	Ile		
		275					280					285					
tat	agc	ctg	aga	aaa	aaa	gat	gtt	aaa	cgg	gca	ata	agg	aaa	gtt	atg		912
Tyr	Ser	Leu	Arg	Lys	Lys	Asp	Val	Lys	Arg	Ala	Ile	Arg	Lys	Val	Met		
	290					295					300						
ttg	aaa	agg	aca	tga													927
Leu	Lys	Arg	Thr														

305

<210> 360  
 <211> 308  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 360

Met Ala Met Asp Asn Val Thr Ala Val Phe Gln Phe Leu Leu Ile Gly  
 1 5 10 15

Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu  
 20 25 30

Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu  
 35 40 45

Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser  
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln  
 65 70 75 80

Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg  
 85 90 95

Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys  
 100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn  
 115 120 125

Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu  
 130 135 140

Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile  
 145 150 155 160

Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe  
 165 170 175

Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser  
 180 185 190

Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu  
 195 200 205

Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile  
 210 215 220

Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys  
 225 230 235 240

Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser  
 245 250 255

Met Tyr Met Lys Thr Gln Ser Lys Ser Ser Pro Asp Gln Asp Lys Phe  
 260 265 270

Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile  
 275 280 285

Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met  
 290 295 300

Leu Lys Arg Thr  
 305

<210> 361  
 <211> 900  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(897)  
 <223>

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 1 5 10 15  
 cag aat cca aag gag cag aaa gta ctt ttt gtt atg ttc ttg ctc ttc 96  
 Gln Asn Pro Lys Glu Gln Lys Val Leu Phe Val Met Phe Leu Leu Phe  
 20 25 30  
 tac att ttg acc atg gtg ggc aac ctg ctc att gta gtg acc gta act 144  
 Tyr Ile Leu Thr Met Val Gly Asn Leu Leu Ile Val Val Thr Val Thr  
 35 40 45  
 gtc agt gag acc ctg ggc tca cca atg tcc ttc ttt ctt gct ggc tta 192  
 Val Ser Glu Thr Leu Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu  
 50 55 60  
 aca ttt ata gat atc att tat tct tca tcc att tcc ccc aga ttg att 240  
 Thr Phe Ile Asp Ile Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile  
 65 70 75 80

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tca gac ttg ttc ttt ggg aat aat tcc ata tcc ttc caa tct ttc atg      288
Ser Asp Leu Phe Phe Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met
                        85                                90                                95

gcc cag ctc ttt atc gag cac ctt ttt ggt ggg tca gag gtc ttt ctc      336
Ala Gln Leu Phe Ile Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu
                        100                               105                               110

ctg ttg gtg atg gcc tat gac cgc tat gtg gcc atc tgt aag ccc ttg      384
Leu Leu Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu
                        115                               120                               125

cat tat ttg gtt atc atg aga caa tgg gtg tgt gtt ttg ctg ctg gta      432
His Tyr Leu Val Ile Met Arg Gln Trp Val Cys Val Leu Leu Leu Val
                        130                               135                               140

gtg tcc tgg gtt gga gga ttt ctg caa tca gta ttt caa ctt agc att      480
Val Ser Trp Val Gly Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile
                        145                               150                               155                               160

att tat ggg ctc cca ttc tgt ggc ccc aat gtc att gat cat ttt ttc      528
Ile Tyr Gly Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe
                        165                               170                               175

tgt gac atg tat ccc tta ttg aaa ctg gcc tgc act gac acc cat gtt      576
Cys Asp Met Tyr Pro Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val
                        180                               185                               190

att ggc ctc tta gtg gtg gcc aat gga gga ctg tct tgc act att gcg      624
Ile Gly Leu Leu Val Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala
                        195                               200                               205

ttt ctg ctc tta ctc atc tct tat ggt gtc atc ctg cac tct cta aag      672
Phe Leu Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys
                        210                               215                               220

aaa ctt agt cag aaa ggg agg caa aaa gcc cac tca acc tgc agt tcc      720
Lys Leu Ser Gln Lys Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser
                        225                               230                               235                               240

cac atc act gtg gtt gtc ttc ttc ttt gtt cct tgt att ttt atg tgt      768
His Ile Thr Val Val Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys
                        245                               250                               255

gct aga cct gct agg acc ttc tcc att gac aaa tca gtg agt gtg ttt      816
Ala Arg Pro Ala Arg Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe
                        260                               265                               270

tat aca gtc ata acc cca atg ctg aac ccc tta atc tac act ctg aga      864
Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg
                        275                               280                               285

aat tct gag atg aca agt gct atg aag aag ctt tag      900
Asn Ser Glu Met Thr Ser Ala Met Lys Lys Leu
                        290                               295

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<210> 362  
 <211> 299  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 362

Met Glu Pro Arg Lys Asn Val Thr Asp Phe Val Leu Leu Gly Phe Thr  
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Gln Asn Pro Lys Glu Gln Lys Val Leu Phe Val Met Phe Leu Leu Phe  
 20 25 30

Tyr Ile Leu Thr Met Val Gly Asn Leu Leu Ile Val Val Thr Val Thr  
 35 40 45

Val Ser Glu Thr Leu Gly Ser Pro Met Ser Phe Phe Leu Ala Gly Leu  
 50 55 60

Thr Phe Ile Asp Ile Ile Tyr Ser Ser Ser Ile Ser Pro Arg Leu Ile  
 65 70 75 80

Ser Asp Leu Phe Phe Gly Asn Asn Ser Ile Ser Phe Gln Ser Phe Met  
 85 90 95

Ala Gln Leu Phe Ile Glu His Leu Phe Gly Gly Ser Glu Val Phe Leu  
 100 105 110

Leu Leu Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

His Tyr Leu Val Ile Met Arg Gln Trp Val Cys Val Leu Leu Val  
 130 135 140

Val Ser Trp Val Gly Gly Phe Leu Gln Ser Val Phe Gln Leu Ser Ile  
 145 150 155 160

Ile Tyr Gly Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Phe  
 165 170 175

Cys Asp Met Tyr Pro Leu Leu Lys Leu Ala Cys Thr Asp Thr His Val  
 180 185 190

Ile Gly Leu Leu Val Val Ala Asn Gly Gly Leu Ser Cys Thr Ile Ala  
 195 200 205

Phe Leu Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu His Ser Leu Lys  
 210 215 220

Lys Leu Ser Gln Lys Gly Arg Gln Lys Ala His Ser Thr Cys Ser Ser  
 225 230 235 240



His Ile Thr Val Val Val Phe Phe Phe Val Pro Cys Ile Phe Met Cys  
 245 250 255

Ala Arg Pro Ala Arg Thr Phe Ser Ile Asp Lys Ser Val Ser Val Phe  
 260 265 270

Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg  
 275 280 285

Asn Ser Glu Met Thr Ser Ala Met Lys Lys Leu  
 290 295

<210> 363  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)  
 <223>

<400> 363  
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 Met Arg Gln Asn Asn Asn Ile Thr Glu Phe Val Leu Leu Gly Phe Ser  
 1 5 10 15  
 cag gat cct ggt gtg caa aaa gca tta ttt gtc atg ttt tta ctc aca 96  
 Gln Asp Pro Gly Val Gln Lys Ala Leu Phe Val Met Phe Leu Leu Thr  
 20 25 30  
 tac ttg gtg aca gtg gtg ggg aac ctg ctc att gtg gtg gat att att 144  
 Tyr Leu Val Thr Val Val Gly Asn Leu Leu Ile Val Val Asp Ile Ile  
 35 40 45  
 gcc agc cct tcc ttg ggt tcc cca atg tat ttc ttc ctt gcc tgc ctg 192  
 Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Cys Leu  
 50 55 60  
 tca ttt ata gat gct gca tat tcc act acc att tct ccc aag tta att 240  
 Ser Phe Ile Asp Ala Ala Tyr Ser Thr Thr Ile Ser Pro Lys Leu Ile  
 65 70 75 80  
 gta ggc tta ttc tgt gat aaa aag act att tcc ttc caa ggt tgc atg 288  
 Val Gly Leu Phe Cys Asp Lys Lys Thr Ile Ser Phe Gln Gly Cys Met  
 85 90 95  
 ggc cag cta ttt ata gac cat ttc ttt ggt ggg gct gag gtc ttc ctt 336  
 Gly Gln Leu Phe Ile Asp His Phe Phe Gly Gly Ala Glu Val Phe Leu  
 100 105 110  
 ctg gtg gtg atg gcc tgt gat cgc tat gtg gcc atc tgt aag cca ctg 384  
 Leu Val Val Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

cac tat ttg acc atc atg aat cga cag gtt tgc ttc ctt ctg ttg gtg 432  
 His Tyr Leu Thr Ile Met Asn Arg Gln Val Cys Phe Leu Leu Leu Val  
 130 135 140

gtg gcc atg att gga ggt ttt gta cat tct gcg ttt caa att gtt gtg 480  
 Val Ala Met Ile Gly Gly Phe Val His Ser Ala Phe Gln Ile Val Val  
 145 150 155 160

tac agt ctc cct atc tgt ggt ccc aat gtc att gtt cat ttc agt tgt 528  
 Tyr Ser Leu Pro Ile Cys Gly Pro Asn Val Ile Val His Phe Ser Cys  
 165 170 175

gac atg cac cca tta ctg gaa ctg gca tgc act gac acc tac ttt ata 576  
 Asp Met His Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Phe Ile  
 180 185 190

ggc ctc act gtt gtt gtc aat agt gga gca atc tgt atg gtc att ttc 624  
 Gly Leu Thr Val Val Val Asn Ser Gly Ala Ile Cys Met Val Ile Phe  
 195 200 205

aac ctt ctg tta atc tcc tat gga gtc atc cta agc tcc ctt aaa act 672  
 Asn Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu Ser Ser Leu Lys Thr  
 210 215 220

tac agt cag gaa aag agg ggt aaa gcc ttg tct acc tgc agc tcc ggc 720  
 Tyr Ser Gln Glu Lys Arg Gly Lys Ala Leu Ser Thr Cys Ser Ser Gly  
 225 230 235 240

agt acc gtt gtt gtc ctc ttt ttt gta ccc tgt att ttc ata tat gtt 768  
 Ser Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Ile Tyr Val  
 245 250 255

aga cct gtt tca aac ttt cct act gat aag ttc atg act gtg ttt tat 816  
 Arg Pro Val Ser Asn Phe Pro Thr Asp Lys Phe Met Thr Val Phe Tyr  
 260 265 270

acc att atc aca cac atg ctg agt cct tta ata tat acg ttg aga aat 864  
 Thr Ile Ile Thr His Met Leu Ser Pro Leu Ile Tyr Thr Leu Arg Asn  
 275 280 285

tca gag atg aga aat gct ata gaa aaa ctc ttg ggt aaa aag tta act 912  
 Ser Glu Met Arg Asn Ala Ile Glu Lys Leu Leu Gly Lys Lys Leu Thr  
 290 295 300

ata ttt att ata gga gga gtg tcc gtc ctc atg tag 948  
 Ile Phe Ile Ile Gly Gly Val Ser Val Leu Met  
 305 310 315

<210> 364  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 364

Met Arg Gln Asn Asn Asn Ile Thr Glu Phe Val Leu Leu Gly Phe Ser  
 1 5 10 15

Gln Asp Pro Gly Val Gln Lys Ala Leu Phe Val Met Phe Leu Leu Thr  
 20 25 30

Tyr Leu Val Thr Val Val Gly Asn Leu Leu Ile Val Val Asp Ile Ile  
 35 40 45

Ala Ser Pro Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Cys Leu  
 50 55 60

Ser Phe Ile Asp Ala Ala Tyr Ser Thr Thr Ile Ser Pro Lys Leu Ile  
 65 70 75 80

Val Gly Leu Phe Cys Asp Lys Lys Thr Ile Ser Phe Gln Gly Cys Met  
 85 90 95

Gly Gln Leu Phe Ile Asp His Phe Phe Gly Gly Ala Glu Val Phe Leu  
 100 105 110

Leu Val Val Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

His Tyr Leu Thr Ile Met Asn Arg Gln Val Cys Phe Leu Leu Leu Val  
 130 135 140

Val Ala Met Ile Gly Gly Phe Val His Ser Ala Phe Gln Ile Val Val  
 145 150 155 160

Tyr Ser Leu Pro Ile Cys Gly Pro Asn Val Ile Val His Phe Ser Cys  
 165 170 175

Asp Met His Pro Leu Leu Glu Leu Ala Cys Thr Asp Thr Tyr Phe Ile  
 180 185 190

Gly Leu Thr Val Val Val Asn Ser Gly Ala Ile Cys Met Val Ile Phe  
 195 200 205

Asn Leu Leu Leu Ile Ser Tyr Gly Val Ile Leu Ser Ser Leu Lys Thr  
 210 215 220

Tyr Ser Gln Glu Lys Arg Gly Lys Ala Leu Ser Thr Cys Ser Ser Gly  
 225 230 235 240

Ser Thr Val Val Val Leu Phe Phe Val Pro Cys Ile Phe Ile Tyr Val  
 245 250 255

Arg Pro Val Ser Asn Phe Pro Thr Asp Lys Phe Met Thr Val Phe Tyr

260	265	270	
Thr Ile Ile Thr His Met Leu Ser Pro Leu Ile Tyr Thr Leu Arg Asn			
275	280	285	
Ser Glu Met Arg Asn Ala Ile Glu Lys Leu Leu Gly Lys Lys Leu Thr			
290	295	300	
Ile Phe Ile Ile Gly Gly Val Ser Val Leu Met			
305	310	315	
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<211> 1044			
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<213> Homo Sapiens			
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<222> (1)..(1041)			
<223>			
<400> 365			
atg ggt aac tgg act gca gcg gtg act gag ttt gtt ctg ctg ggg ttt			48
Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe			
1	5	10	15
tcc ctg agc agg gag gtg gag ctg ctg ctc ctg gtg ctc ctg ctg ccc			96
Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Val Leu Leu Leu Pro			
20	25	30	
acg ttc ctg ctg act ctt ctg ggg aac ctg ctc atc atc tcc act gtg			144
Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val			
35	40	45	
ctg tcc tgc tcc cgc ctc cac acc ccc atg tac ttc ttc ttg tgc aac			192
Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn			
50	55	60	
ctc tct atc ctg gac atc ctc ttc acc tca gtc atc tct cca aaa gtg			240
Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val			
65	70	75	80
ttg gcc aac tta gga tct agg gat aaa acc atc tcc ttt gcc gga tgt			288
Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys			
85	90	95	
atc acc cag tgc tat ttc tac ttt ttc ttg ggc aca gtt gag ttc ctc			336
Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu			
100	105	110	
ctg ctg acg gtc atg tcc tat gac cgt tat gcc acc atc tgc tgc ccc			384
Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro			
115	120	125	
ctg cgg tac acc acc atc atg aga cct tct gtc tgc att ggg acc gtt			432
Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val			

130	135	140	
gta ttc tct tgg gtg gga ggc ttc ctg tct gtg ctc ttt cca acc atc			480
Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile			
145	150	155	160
ctc atc tcc cag ctg ccc ttc tgt ggc tcc aat atc att aac cac ttc			528
Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe			
	165	170	175
ttc tgt gac agt gga ccc ttg ctg gcc ctg gcc tgt gca gac acc act			576
Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr			
	180	185	190
gcc atc gag ctg atg gat ttt atg ctt tct tcc atg gtc atc ctc tgc			624
Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys			
	195	200	205
tgc ata gtc ctc gtg gcc tat tcc tat acg tac atc atc ttg acc ata			672
Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile			
	210	215	220
gtg cgc att cct tct gca agt gga agg aag aag gcc ttt aat acc tgt			720
Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys			
	225	230	235
gct tcc cac ctg acc ata gtc atc att cct agt ggc atc act gtg ttt			768
Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe			
	245	250	255
atc tat gtg act ccc tcc cag aaa gaa tat ctg gag atc aac aag atc			816
Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile			
	260	265	270
cct ttg gtt ctg agc agt gtg gtg act cca ttc ctc aac ccc ttt ata			864
Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile			
	275	280	285
tat act ctg agg aat gac aca gtg cag gga gtc ctc agg gat gtg tgg			912
Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp			
	290	295	300
gtc agg gtt cga gga gtt ttt gaa aag agg atg agg gca gtg ctg aga			960
Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg			
	305	310	315
agc aga tta tcc tcc aac aaa gac cac caa gga agg gct tgc tct tct			1008
Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser			
	325	330	335
cca cca tgt gtc tat tct gta aag ctc cag tgt tag			1044
Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys			
	340	345	

&lt;210&gt; 366

&lt;211&gt; 347

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 366

Met Gly Asn Trp Thr Ala Ala Val Thr Glu Phe Val Leu Leu Gly Phe  
 1 5 10 15  
 Ser Leu Ser Arg Glu Val Glu Leu Leu Leu Val Leu Leu Leu Pro  
 20 25 30  
 Thr Phe Leu Leu Thr Leu Leu Gly Asn Leu Leu Ile Ile Ser Thr Val  
 35 40 45  
 Leu Ser Cys Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Asn  
 50 55 60  
 Leu Ser Ile Leu Asp Ile Leu Phe Thr Ser Val Ile Ser Pro Lys Val  
 65 70 75 80  
 Leu Ala Asn Leu Gly Ser Arg Asp Lys Thr Ile Ser Phe Ala Gly Cys  
 85 90 95  
 Ile Thr Gln Cys Tyr Phe Tyr Phe Phe Leu Gly Thr Val Glu Phe Leu  
 100 105 110  
 Leu Leu Thr Val Met Ser Tyr Asp Arg Tyr Ala Thr Ile Cys Cys Pro  
 115 120 125  
 Leu Arg Tyr Thr Thr Ile Met Arg Pro Ser Val Cys Ile Gly Thr Val  
 130 135 140  
 Val Phe Ser Trp Val Gly Gly Phe Leu Ser Val Leu Phe Pro Thr Ile  
 145 150 155 160  
 Leu Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asn His Phe  
 165 170 175  
 Phe Cys Asp Ser Gly Pro Leu Leu Ala Leu Ala Cys Ala Asp Thr Thr  
 180 185 190  
 Ala Ile Glu Leu Met Asp Phe Met Leu Ser Ser Met Val Ile Leu Cys  
 195 200 205  
 Cys Ile Val Leu Val Ala Tyr Ser Tyr Thr Tyr Ile Ile Leu Thr Ile  
 210 215 220  
 Val Arg Ile Pro Ser Ala Ser Gly Arg Lys Lys Ala Phe Asn Thr Cys  
 225 230 235 240

Ala Ser His Leu Thr Ile Val Ile Ile Pro Ser Gly Ile Thr Val Phe  
245 250 255

Ile Tyr Val Thr Pro Ser Gln Lys Glu Tyr Leu Glu Ile Asn Lys Ile  
260 265 270

Pro Leu Val Leu Ser Ser Val Val Thr Pro Phe Leu Asn Pro Phe Ile  
275 280 285

Tyr Thr Leu Arg Asn Asp Thr Val Gln Gly Val Leu Arg Asp Val Trp  
290 295 300

Val Arg Val Arg Gly Val Phe Glu Lys Arg Met Arg Ala Val Leu Arg  
305 310 315 320

Ser Arg Leu Ser Ser Asn Lys Asp His Gln Gly Arg Ala Cys Ser Ser  
325 330 335

Pro Pro Cys Val Tyr Ser Val Lys Leu Gln Cys  
340 345

<210> 367  
<211> 942  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(939)  
<223>

<400> 367  
atg gct ggg gaa aac cat act aca ctg cct gaa ttc ctc ctt ctg gga 48  
Met Ala Gly Glu Asn His Thr Thr Leu Pro Glu Phe Leu Leu Gly  
1 5 10 15  
ttc tct gac ctc aag gcc ctg cag ggc ccc ctg ttc tgg gtg gtg ctt 96  
Phe Ser Asp Leu Lys Ala Leu Gln Gly Pro Leu Phe Trp Val Val Leu  
20 25 30  
ctg gtc tac ctg gtc acc ttg ctg ggt aac tcc ctg atc atc ctc ctc 144  
Leu Val Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu  
35 40 45  
aca cag gtc agc cct gcc ctg cac tcc ccc atg tac ttc ttc ctg cgc 192  
Thr Gln Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg  
50 55 60  
caa ctc tca gtg gtg gag ctc ttc tac acc act gac atc gtg ccc agg 240  
Gln Leu Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg  
65 70 75 80  
acc ctg gcc aat ctg ggc tcc ccg cat ccc cag gcc atc tct ttc cag 288

Thr	Leu	Ala	Asn	Leu	Gly	Ser	Pro	His	Pro	Gln	Ala	Ile	Ser	Phe	Gln		
			85						90					95			
ggc	tgt	gca	gcc	cag	atg	tac	gtc	ttc	att	gtc	ctg	ggc	atc	tcg	gag		336
Gly	Cys	Ala	Ala	Gln	Met	Tyr	Val	Phe	Ile	Val	Leu	Gly	Ile	Ser	Glu		
			100					105					110				
tgc	tgc	ctg	ctc	acg	gcc	atg	gcc	tat	gac	cga	tat	gtt	gcc	atc	tgc		384
Cys	Cys	Leu	Leu	Thr	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys		
			115				120					125					
cag	ccc	cta	cgc	tat	tcc	acc	ctc	ttg	agc	cca	cgg	gcc	tgc	ttg	gcc		432
Gln	Pro	Leu	Arg	Tyr	Ser	Thr	Leu	Leu	Ser	Pro	Arg	Ala	Cys	Leu	Ala		
			130			135					140						
atg	gtg	ggg	tcc	tcc	tgg	ctc	aca	ggc	atc	atc	acg	gcc	acc	acc	cat		480
Met	Val	Gly	Ser	Ser	Trp	Leu	Thr	Gly	Ile	Ile	Thr	Ala	Thr	Thr	His		
					150					155					160		
gcc	tcc	ctc	atc	ttc	tct	cta	cct	ttt	cgc	agc	cac	ccg	atc	atc	ccg		528
Ala	Ser	Leu	Ile	Phe	Ser	Leu	Pro	Phe	Arg	Ser	His	Pro	Ile	Ile	Pro		
				165					170						175		
cac	ttt	ctc	tgt	gac	atc	ctg	cca	gta	ctg	agg	ctg	gca	agt	gct	ggg		576
His	Phe	Leu	Cys	Asp	Ile	Leu	Pro	Val	Leu	Arg	Leu	Ala	Ser	Ala	Gly		
			180					185					190				
aag	cac	agg	agc	gag	atc	tcc	gtg	atg	aca	gcc	acc	ata	gtc	ttc	att		624
Lys	His	Arg	Ser	Glu	Ile	Ser	Val	Met	Thr	Ala	Thr	Ile	Val	Phe	Ile		
			195				200						205				
atg	atc	ccc	ttc	tct	ctg	att	gtc	acc	tct	tac	atc	cgc	atc	ctg	ggt		672
Met	Ile	Pro	Phe	Ser	Leu	Ile	Val	Thr	Ser	Tyr	Ile	Arg	Ile	Leu	Gly		
			210			215					220						
gcc	atc	cta	gca	atg	gcc	tcc	acc	cag	agc	cgc	cgc	aag	gtc	ttc	tcc		720
Ala	Ile	Leu	Ala	Met	Ala	Ser	Thr	Gln	Ser	Arg	Arg	Lys	Val	Phe	Ser		
					230					235					240		
acc	tgc	tcc	tcc	cat	ctg	ctc	gtg	gtc	tct	ctc	ttc	ttt	gga	aca	gcc		768
Thr	Cys	Ser	Ser	His	Leu	Leu	Val	Val	Ser	Leu	Phe	Phe	Gly	Thr	Ala		
				245				250					255				
agc	atc	acc	tac	atc	cgg	ccg	cag	gca	ggc	tcc	tct	gtt	acc	aca	gac		816
Ser	Ile	Thr	Tyr	Ile	Arg	Pro	Gln	Ala	Gly	Ser	Ser	Val	Thr	Thr	Asp		
			260					265					270				
cgc	gtc	ctc	agt	ctc	ttc	tac	aca	gtc	atc	aca	ccc	atg	ctc	aac	ccc		864
Arg	Val	Leu	Ser	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Met	Leu	Asn	Pro		
			275				280					285					
atc	atc	tac	acc	ctt	cgg	aac	aag	gac	gtg	agg	agg	gcc	ctg	cga	cac		912
Ile	Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Val	Arg	Arg	Ala	Leu	Arg	His		
			290			295					300						
ttg	gtg	aag	agg	cag	cgc	ccc	tca	ccc	tga								942
Leu	Val	Lys	Arg	Gln	Arg	Pro	Ser	Pro									
					310												

&lt;210&gt; 368



<211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 368

Met Ala Gly Glu Asn His Thr Thr Leu Pro Glu Phe Leu Leu Leu Gly  
 1 5 10 15

Phe Ser Asp Leu Lys Ala Leu Gln Gly Pro Leu Phe Trp Val Val Leu  
 20 25 30

Leu Val Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu  
 35 40 45

Thr Gln Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg  
 50 55 60

Gln Leu Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg  
 65 70 75 80

Thr Leu Ala Asn Leu Gly Ser Pro His Pro Gln Ala Ile Ser Phe Gln  
 85 90 95

Gly Cys Ala Ala Gln Met Tyr Val Phe Ile Val Leu Gly Ile Ser Glu  
 100 105 110

Cys Cys Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys  
 115 120 125

Gln Pro Leu Arg Tyr Ser Thr Leu Leu Ser Pro Arg Ala Cys Leu Ala  
 130 135 140

Met Val Gly Ser Ser Trp Leu Thr Gly Ile Ile Thr Ala Thr Thr His  
 145 150 155 160

Ala Ser Leu Ile Phe Ser Leu Pro Phe Arg Ser His Pro Ile Ile Pro  
 165 170 175

His Phe Leu Cys Asp Ile Leu Pro Val Leu Arg Leu Ala Ser Ala Gly  
 180 185 190

Lys His Arg Ser Glu Ile Ser Val Met Thr Ala Thr Ile Val Phe Ile  
 195 200 205

Met Ile Pro Phe Ser Leu Ile Val Thr Ser Tyr Ile Arg Ile Leu Gly  
 210 215 220

Ala Ile Leu Ala Met Ala Ser Thr Gln Ser Arg Arg Lys Val Phe Ser  
225 230 235 240

Thr Cys Ser Ser His Leu Leu Val Val Ser Leu Phe Phe Gly Thr Ala  
245 250 255

Ser Ile Thr Tyr Ile Arg Pro Gln Ala Gly Ser Ser Val Thr Thr Asp  
260 265 270

Arg Val Leu Ser Leu Phe Tyr Thr Val Ile Thr Pro Met Leu Asn Pro  
275 280 285

Ile Ile Tyr Thr Leu Arg Asn Lys Asp Val Arg Arg Ala Leu Arg His  
290 295 300

Leu Val Lys Arg Gln Arg Pro Ser Pro  
305 310

<210> 369  
<211> 1098  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(1095)  
<223>

<220>  
<221> misc\_feature  
<222> (146)..(146)  
<223> Any nucleotide

<400> 369  
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Met Met Thr Val Ile Leu Lys Thr Leu Leu Gly Gln Ile Gln Gly Leu  
1 5 10 15  
  
agt gga aac cca cac tct act acg tct aga atg tac ttt tta tgt ttc 96  
Ser Gly Asn Pro His Ser Thr Thr Ser Arg Met Tyr Phe Leu Cys Phe  
20 25 30  
  
tgt act tct cta cta ggt ttt aag gta cac tgg gtc tcc aga ttg atc 144  
Cys Thr Ser Leu Leu Gly Phe Lys Val His Trp Val Ser Arg Leu Ile  
35 40 45  
  
ang aaa ctt tac atg gca tct ccc aac aat gac tcc act gcc cca gtc 192  
Xaa Lys Leu Tyr Met Ala Ser Pro Asn Asn Asp Ser Thr Ala Pro Val  
50 55 60  
  
tct gaa ttc ctc ctc atc tgc ttc ccc aac ttc cag agc tgg cag cac 240  
Ser Glu Phe Leu Leu Ile Cys Phe Pro Asn Phe Gln Ser Trp Gln His

65	70	75	80	
tgg ttg tct ctg ccc ctc agc ctt ctc ttc ctc ctg gcc atg gga gct				288
Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala				
	85	90	95	
aac acc acc ctc ctg atc acc atc cag ctg gag gcc tct ctg cac cag				336
Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln				
	100	105	110	
ccc ctg tac tac ctg ctc agc ctc ctc tcc ctg ctg gac atc gtg ctc				384
Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu				
	115	120	125	
tgc ctc acc gtc atc ccc aag gtc ctg gcc atc ttc tgg ttt gac ctc				432
Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Phe Asp Leu				
	130	135	140	
agg tcg atc agc ttc cca gcc tgc ttc ctc cag atg ttc atc atg aac				480
Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn				
	145	150	155	160
agt ttt ttg acc atg gag tcc tgc acg ttc atg gtc atg gcc tat gac				528
Ser Phe Leu Thr Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp				
	165	170	175	
cgt tat gtg gcc atc tgc cat cca ttg aga tac ccg tct atc atc act				576
Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr				
	180	185	190	
gac cag ttt gtg gct agg gcc gtg gtc ttt gtt ata gcc cgg aat gcc				624
Asp Gln Phe Val Ala Arg Ala Val Val Phe Val Ile Ala Arg Asn Ala				
	195	200	205	
ttt gtt tct ctt cct gtt ccc atg ctt tct gcc agg ctc aga tac tgt				672
Phe Val Ser Leu Pro Val Pro Met Leu Ser Ala Arg Leu Arg Tyr Cys				
	210	215	220	
gca gga aac ata atc aag aac tgc atc tgc agt aac ctg tct gtg tcc				720
Ala Gly Asn Ile Ile Lys Asn Cys Ile Cys Ser Asn Leu Ser Val Ser				
	225	230	235	240
aaa ctc tct tgt gat gac atc act ttc aat cag ctc tac cag ttt gtg				768
Lys Leu Ser Cys Asp Asp Ile Thr Phe Asn Gln Leu Tyr Gln Phe Val				
	245	250	255	
gca ggc tgg act ctg ttg ggc tct gat ctt atc ctt att gtt atc tcc				816
Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Val Ile Ser				
	260	265	270	
tat tct ttt ata ttg aaa gtt gtg ctt agg atc aag gcc gag ggt gct				864
Tyr Ser Phe Ile Leu Lys Val Val Leu Arg Ile Lys Ala Glu Gly Ala				
	275	280	285	
gtg gcc aag gcc ttg agc acg tgt ggt tcc cac ttc atc ctc atc ctc				912
Val Ala Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu				
	290	295	300	
ttc ttc agc aca gtc ctg ctg gtt ctg gtc atc act aac ctg gcc agg				960
Phe Phe Ser Thr Val Leu Leu Val Leu Val Ile Thr Asn Leu Ala Arg				
	305	310	315	320

aag aga att cct cca gat gtc ccc atc ctg ctc aac atc ctg cac cac 1008  
 Lys Arg Ile Pro Pro Asp Val Pro Ile Leu Leu Asn Ile Leu His His  
                   325                  330                  335

ctc att ccc cca gct ctg aac ccc att gtt tat ggt gtg aga acc aag 1056  
 Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys  
                   340                  345                  350

gag atc aag cag gga atc caa aac ctg ctg aag agg ttg taa 1098  
 Glu Ile Lys Gln Gly Ile Gln Asn Leu Leu Lys Arg Leu  
                   355                  360                  365

<210> 370

<211> 365

<212> PRT

<213> Homo Sapiens

<220>

<221> misc\_feature

<222> (49)..(49)

<223> The 'Xaa' at location 49 stands for Lys, Arg, Thr, or Met.

<220>

<221> misc\_feature

<222> (146)..(146)

<223> Any nucleotide

<400> 370

Met Met Thr Val Ile Leu Lys Thr Leu Leu Gly Gln Ile Gln Gly Leu  
 1                  5                  10                  15

Ser Gly Asn Pro His Ser Thr Thr Ser Arg Met Tyr Phe Leu Cys Phe  
                   20                  25                  30

Cys Thr Ser Leu Leu Gly Phe Lys Val His Trp Val Ser Arg Leu Ile  
                   35                  40                  45

Xaa Lys Leu Tyr Met Ala Ser Pro Asn Asn Asp Ser Thr Ala Pro Val  
                   50                  55                  60

Ser Glu Phe Leu Leu Ile Cys Phe Pro Asn Phe Gln Ser Trp Gln His  
 65                  70                  75                  80

Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala  
                   85                  90                  95

Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln  
                   100                  105                  110

Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu  
                   115                  120                  125

Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Phe Asp Leu  
 130 135 140

Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn  
 145 150 155 160

Ser Phe Leu Thr Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp  
 165 170 175

Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr  
 180 185 190

Asp Gln Phe Val Ala Arg Ala Val Val Phe Val Ile Ala Arg Asn Ala  
 195 200 205

Phe Val Ser Leu Pro Val Pro Met Leu Ser Ala Arg Leu Arg Tyr Cys  
 210 215 220

Ala Gly Asn Ile Ile Lys Asn Cys Ile Cys Ser Asn Leu Ser Val Ser  
 225 230 235 240

Lys Leu Ser Cys Asp Asp Ile Thr Phe Asn Gln Leu Tyr Gln Phe Val  
 245 250 255

Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Val Ile Ser  
 260 265 270

Tyr Ser Phe Ile Leu Lys Val Val Leu Arg Ile Lys Ala Glu Gly Ala  
 275 280 285

Val Ala Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu  
 290 295 300

Phe Phe Ser Thr Val Leu Leu Val Leu Val Ile Thr Asn Leu Ala Arg  
 305 310 315 320

Lys Arg Ile Pro Pro Asp Val Pro Ile Leu Leu Asn Ile Leu His His  
 325 330 335

Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys  
 340 345 350

Glu Ile Lys Gln Gly Ile Gln Asn Leu Leu Lys Arg Leu  
 355 360 365

<210> 371  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1) .. (954)  
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<400> 371  
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 Met Ile Gln Pro Met Ala Ser Pro Ser Asn Ser Ser Thr Val Pro Val  
 1 5 10 15  
 tct gaa ttc ctc ctc acc tgc ttc ccc aac ttc cag agt tgg cag cac 96  
 Ser Glu Phe Leu Leu Thr Cys Phe Pro Asn Phe Gln Ser Trp Gln His  
 20 25 30  
 tgg ctc tcc ctg ccc ctc agc ctt ctc ttc ctc ctg gcc atg gga gct 144  
 Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala  
 35 40 45  
 aac acc acc ctc ctg atc acc atc cag ctg gag gcc tct ctg cac cag 192  
 Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln  
 50 55 60  
 ccc ctg tac tac ctg ctc agc ctc ctc tcc ctg ctg gac atc gtg ctc 240  
 Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu  
 65 70 75 80  
 tgc ctc acc gtc atc ccc aag gtc ctg gcc atc ttc tgg tat gat ctt 288  
 Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Tyr Asp Leu  
 85 90 95  
 agg tgc atc agc ttc cct gcc tgc ttc ctc cag atg ttc atc atg aac 336  
 Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn  
 100 105 110  
 agt ttc ctc ccc atg gag tcc tgc acg ttt atg gtc atg gcc tat gac 384  
 Ser Phe Leu Pro Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp  
 115 120 125  
 cgt tat gtg gcc atc tgc cac cca ctg cgg tac cca tcc atc atc act 432  
 Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr  
 130 135 140  
 aat caa ttt gtg gcc aaa gct agt gtc ttc att gtg gtg cgg aat gcg 480  
 Asn Gln Phe Val Ala Lys Ala Ser Val Phe Ile Val Val Arg Asn Ala  
 145 150 155 160  
 ctt ctt act gca ccc att cct atc ctc act tcc ctg ctc cat tac tgt 528  
 Leu Leu Thr Ala Pro Ile Pro Ile Leu Thr Ser Leu Leu His Tyr Cys  
 165 170 175  
 ggg gaa aat gtc att gag aac tgc atc tgt gcc aac ttg tct gtg tcc 576  
 Gly Glu Asn Val Ile Glu Asn Cys Ile Cys Ala Asn Leu Ser Val Ser  
 180 185 190

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agg ctc tcc tgt gat aat ttc acc ctt aac aga atc tac caa ttt gtg      624
Arg Leu Ser Cys Asp Asn Phe Thr Leu Asn Arg Ile Tyr Gln Phe Val
      195                                200                                205

gct ggt tgg acc ttg ctg ggc tca gat tta ttc ctc atc ttc ctc tct      672
Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Phe Leu Ile Phe Leu Ser
      210                                215                                220

tac acc ttc att cta aga gct gtg ctt aga ttc aaa gca gag ggg gcg      720
Tyr Thr Phe Ile Leu Arg Ala Val Leu Arg Phe Lys Ala Glu Gly Ala
      225                                230                                235                                240

gca gtg aag gcc ctg agc aca tgt ggc tcc cac ttc atc ctc att ctt      768
Ala Val Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu
      245                                250                                255

ttc ttc agc acc ata ctg ctg gtt gtg gtg ttg aca aac gtg gcc aga      816
Phe Phe Ser Thr Ile Leu Leu Val Val Val Leu Thr Asn Val Ala Arg
      260                                265                                270

aag aag gtc ccc atg gac atc ctg atc ctg ctg aac gtc ctt cat cac      864
Lys Lys Val Pro Met Asp Ile Leu Ile Leu Leu Asn Val Leu His His
      275                                280                                285

ctt att cct cct gcg ttg aac cct att gtg tat ggg gtt cgg acc aaa      912
Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys
      290                                295                                300

gag ata aaa cag gga att cag aag tta ctg cag aga ggg agg tga      957
Glu Ile Lys Gln Gly Ile Gln Lys Leu Leu Gln Arg Gly Arg
      305                                310                                315

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<210> 372
<211> 318
<212> PRT
<213> Homo Sapiens

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<400> 372

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Met Ile Gln Pro Met Ala Ser Pro Ser Asn Ser Ser Thr Val Pro Val
1      5      10      15

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Ser Glu Phe Leu Leu Thr Cys Phe Pro Asn Phe Gln Ser Trp Gln His
      20      25      30

```

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Trp Leu Ser Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala
      35      40      45

```

```

Asn Thr Thr Leu Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln
      50      55      60

```

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Pro Leu Tyr Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu
      65      70      75      80

```

```

Cys Leu Thr Val Ile Pro Lys Val Leu Ala Ile Phe Trp Tyr Asp Leu

```

85	90	95
Arg Ser Ile Ser Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn 100 105 110		
Ser Phe Leu Pro Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp 115 120 125		
Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr 130 135 140		
Asn Gln Phe Val Ala Lys Ala Ser Val Phe Ile Val Val Arg Asn Ala 145 150 155 160		
Leu Leu Thr Ala Pro Ile Pro Ile Leu Thr Ser Leu Leu His Tyr Cys 165 170 175		
Gly Glu Asn Val Ile Glu Asn Cys Ile Cys Ala Asn Leu Ser Val Ser 180 185 190		
Arg Leu Ser Cys Asp Asn Phe Thr Leu Asn Arg Ile Tyr Gln Phe Val 195 200 205		
Ala Gly Trp Thr Leu Leu Gly Ser Asp Leu Phe Leu Ile Phe Leu Ser 210 215 220		
Tyr Thr Phe Ile Leu Arg Ala Val Leu Arg Phe Lys Ala Glu Gly Ala 225 230 235 240		
Ala Val Lys Ala Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu 245 250 255		
Phe Phe Ser Thr Ile Leu Leu Val Val Val Leu Thr Asn Val Ala Arg 260 265 270		
Lys Lys Val Pro Met Asp Ile Leu Ile Leu Leu Asn Val Leu His His 275 280 285		
Leu Ile Pro Pro Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys 290 295 300		
Glu Ile Lys Gln Gly Ile Gln Lys Leu Leu Gln Arg Gly Arg 305 310 315		
<210> 373		
<211> 990		



<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(987)  
<223>

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<400> 373
atg act ttg gtt tct ttt ttc tct ttc ctc tcc aag cca ttg ata atg      48
Met Thr Leu Val Ser Phe Phe Ser Phe Leu Ser Lys Pro Leu Ile Met
1          5          10          15

ctc ctt agc aat tca agc tgg agg cta tcc cag cct tct ttt ctc ctg      96
Leu Leu Ser Asn Ser Ser Trp Arg Leu Ser Gln Pro Ser Phe Leu Leu
          20          25          30

gta ggg att cca ggt tta gag gaa agc cag cac tgg att gca ctg ccc      144
Val Gly Ile Pro Gly Leu Glu Ser Gln His Trp Ile Ala Leu Pro
          35          40          45

ctg ggc atc ctt tac ctc ctt gct tta gtg ggc aat gtt acc att ctc      192
Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu
          50          55          60

ttc atc atc tgg atg gac cca tcc ttg cac caa tct atg tac ctc ttc      240
Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe
65          70          75          80

ctg tcc atg cta gct gcc atc gac ctg gtt ctg gcc tcc tcc act gca      288
Leu Ser Met Leu Ala Ala Ile Asp Leu Val Leu Ala Ser Ser Thr Ala
          85          90          95

ccc aaa gcc ctt gca gtg ctc ctg gtt cat gcc cac gag att ggg tac      336
Pro Lys Ala Leu Ala Val Leu Leu Val His Ala His Glu Ile Gly Tyr
          100          105          110

atc gtc tgc ctg atc cag atg ttc ttc atc cat gca ttc tcc tcc atg      384
Ile Val Cys Leu Ile Gln Met Phe Phe Ile His Ala Phe Ser Ser Met
          115          120          125

gag tca ggg gta ctt gtg gcc atg gct ctg gat cgc tat gta gcc att      432
Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
          130          135          140

tgt cac ccc ttg cac cat tcc aca atc ctg cat cca ggg gtc ata ggg      480
Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
145          150          155          160

cgc atc gga atg gtg gtg ctg gtg agg gga tta cta ctc ctt atc ccc      528
Arg Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro
          165          170          175

ttc ccc att ttg ttg gga aca ctt atc ttc tgc caa gcc acc atc ata      576
Phe Pro Ile Leu Leu Gly Thr Leu Ile Phe Cys Gln Ala Thr Ile Ile
          180          185          190

ggc cat gcc tat tgt gaa cat atg gct gtt gtg aaa ctt gcc tgc tca      624
Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
          195          200          205

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gaa acc aca gtc aat cga gct tat ggg ctg act atg gcc ttg ctt gtg 672  
 Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Met Ala Leu Leu Val  
 210 215 220  
 att ggg ctg gat gtt ctg gcc att ggt gtt tcc tat gcc cac atc ctc 720  
 Ile Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu  
 225 230 235 240  
 cag gca gtg ctg aag gta cca ggg agt gag gcc cga ctt aag gcg ttt 768  
 Gln Ala Val Leu Lys Val Pro Gly Ser Glu Ala Arg Leu Lys Ala Phe  
 245 250 255  
 agc aca tgt ggc tct cat att tgt gtc atc ctg gtc ttc tat gtc cct 816  
 Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Val Phe Tyr Val Pro  
 260 265 270  
 gga att ttc tcc ttc ctc act cac cgc ttt ggt cat cat gta ccc cat 864  
 Gly Ile Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His  
 275 280 285  
 cat gtc cat gtt ctt ctg gcc aca cgg tat ctc ctc atg cca cct gcg 912  
 His Val His Val Leu Leu Ala Thr Arg Tyr Leu Leu Met Pro Pro Ala  
 290 295 300  
 ctc aat cct ctt gtc tat gga gtg aag act cag cag atc cgc cag cga 960  
 Leu Asn Pro Leu Val Tyr Gly Val Lys Thr Gln Gln Ile Arg Gln Arg  
 305 310 315 320  
 gtg ctc aga gtg ttt aca caa aag gat tga 990  
 Val Leu Arg Val Phe Thr Gln Lys Asp  
 325

<210> 374  
 <211> 329  
 <212> PRT  
 <213> Homo Sapiens

<400> 374

Met Thr Leu Val Ser Phe Phe Ser Phe Leu Ser Lys Pro Leu Ile Met  
 1 5 10 15

Leu Leu Ser Asn Ser Ser Trp Arg Leu Ser Gln Pro Ser Phe Leu Leu  
 20 25 30

Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro  
 35 40 45

Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu  
 50 55 60

Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe  
 65 70 75 80

Leu Ser Met Leu Ala Ala Ile Asp Leu Val Leu Ala Ser Ser Thr Ala  
                             85                            90                            95

Pro Lys Ala Leu Ala Val Leu Leu Val His Ala His Glu Ile Gly Tyr  
                             100                            105                            110

Ile Val Cys Leu Ile Gln Met Phe Phe Ile His Ala Phe Ser Ser Met  
                             115                            120                            125

Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile  
                             130                            135                            140

Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly  
                             145                            150                            155                            160

Arg Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro  
                             165                            170                            175

Phe Pro Ile Leu Leu Gly Thr Leu Ile Phe Cys Gln Ala Thr Ile Ile  
                             180                            185                            190

Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser  
                             195                            200                            205

Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Met Ala Leu Leu Val  
                             210                            215                            220

Ile Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu  
                             225                            230                            235                            240

Gln Ala Val Leu Lys Val Pro Gly Ser Glu Ala Arg Leu Lys Ala Phe  
                             245                            250                            255

Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Val Phe Tyr Val Pro  
                             260                            265                            270

Gly Ile Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His  
                             275                            280                            285

His Val His Val Leu Leu Ala Thr Arg Tyr Leu Leu Met Pro Pro Ala  
                             290                            295                            300

Leu Asn Pro Leu Val Tyr Gly Val Lys Thr Gln Gln Ile Arg Gln Arg  
                             305                            310                            315                            320

Val Leu Arg Val Phe Thr Gln Lys Asp

325

<210> 375  
 <211> 960  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (957)  
 <223>

<400> 375  
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 Met Asn Leu Asp Ser Phe Phe Ser Phe Leu Leu Lys Ser Leu Ile Met  
 1 5 10 15  
 gca ctt agc aat tcc agc tgg agg cta ccc cag cct tct ttt ttc ctg 96  
 Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe Leu  
 20 25 30  
 gta gga att ccg ggt tta gag gaa agc cag cac tgg atc gca ctg ccc 144  
 Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro  
 35 40 45  
 ctg ggc atc ctt tac ctc ctt gct cta gtg ggc aat gtt acc att ctc 192  
 Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu  
 50 55 60  
 ttc atc atc tgg atg gac cca tcc ttg cac caa tct atg tac ctc ttc 240  
 Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe  
 65 70 75 80  
 ctg tcc atg cta gct gcc atc gac ctg gtt gtg gcc tcc tcc act gca 288  
 Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala  
 85 90 95  
 ccc aaa gcc ctt gca gtg ctc ctg gtt cgt gcc caa gag att ggt tac 336  
 Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr  
 100 105 110  
 act gtc tgc ctg atc cag atg ttc ttc acc cat gca ttc tcc tcc atg 384  
 Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met  
 115 120 125  
 gag tca ggg gta ctt gtg gcc atg gct ctg gat cgc tat gta gcc att 432  
 Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile  
 130 135 140  
 tgt cac ccc ttg cac cat tcc aca atc ctg cat cca ggg gtc ata ggg 480  
 Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly  
 145 150 155 160  
 cac atc gga atg gtg gtg ctg gtg cgg gga tta cta ctc ctc atc ccc 528  
 His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro  
 165 170 175  
 ttc ctc att ctg ttg cga aaa ctt atc ttc tgc caa gcc acc atc ata 576  
 Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile

	180	185	190	
ggc cat gcc tat tgt gaa cat atg gct gtt gtg aaa ctt gcc tgc tca				624
Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser				
	195	200	205	
gaa acc aca gtc aat cga gct tat ggg ctg act gtg gcc ttg ctt gtg				672
Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val				
	210	215	220	
gtt ggg ctg gat gtc ctg gcc att ggt gtt tcc tat gcc cac att ctc				720
Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu				
	225	230	235	240
cag gca gtg ctg aag gta cca gga aat gag gcc cga ctt aag gcc ttt				768
Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala Phe				
	245	250	255	
agc aca tgt ggc tct cat gtt tgt gtc atc ctg gtc ttc tat atc ccg				816
Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile Pro				
	260	265	270	
gga atg ttc tcc ttc ctc act cac cgc ttt ggt cat cat gta ccc cat				864
Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His				
	275	280	285	
cac gtc cat gtt ctt ctg gcc ata ctg tat cgc ctt gtg cca cct gca				912
His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro Ala				
	290	295	300	
ctc aat cct ctt gtc tat agg gtg aag acc cag aag atc cac cag tga				960
Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln				
	305	310	315	
<210> 376				
<211> 319				
<212> PRT				
<213> Homo Sapiens				
<400> 376				
Met Asn Leu Asp Ser Phe Phe Ser Phe Leu Leu Lys Ser Leu Ile Met				
1 5 10 15				
Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe Leu				
20 25 30				
Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro				
35 40 45				
Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu				
50 55 60				
Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe				
65 70 75 80				

Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala  
                             85                            90                            95

Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr  
                             100                            105                            110

Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met  
                             115                            120                            125

Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile  
                             130                            135                            140

Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly  
                             145                            150                            155                            160

His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile Pro  
                             165                            170                            175

Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile  
                             180                            185                            190

Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser  
                             195                            200                            205

Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val  
                             210                            215                            220

Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu  
                             225                            230                            235                            240

Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala Phe  
                             245                            250                            255

Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile Pro  
                             260                            265                            270

Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro His  
                             275                            280                            285

His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro Ala  
                             290                            295                            300

Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln  
                             305                            310                            315

<210> 377  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(942)  
 <223>

<400> 377  
 atg tca gcc tcc aat atc acc tta aca cat cca act gcc ttc ttg ttg 48  
 Met Ser Ala Ser Asn Ile Thr Leu Thr His Pro Thr Ala Phe Leu Leu  
 1 5 10 15  
 gtg ggg att cca ggc ctg gaa cac ctg cac atc tgg atc tcc atc cct 96  
 Val Gly Ile Pro Gly Leu Glu His Leu His Ile Trp Ile Ser Ile Pro  
 20 25 30  
 ttc tgc tta gca tat aca ctg gcc ctg ctt gga aac tgc act ctc ctt 144  
 Phe Cys Leu Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu  
 35 40 45  
 ctc atc atc cag gct gat gca gcc ctc cat gaa ccc atg tac ctc ttt 192  
 Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe  
 50 55 60  
 ctg gcc atg ttg gca gcc atc gac ctg gtc ctt tcc tcc tca gca ctg 240  
 Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu  
 65 70 75 80  
 ccc aaa atg ctt gcc ata ttc tgg ttc agg gat cgg gag ata aac ttc 288  
 Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe  
 85 90 95  
 ttt gcc tgt ctg gcc cag atg ttc ttc ctt cac tcc ttc tcc atc atg 336  
 Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met  
 100 105 110  
 gag tca gca gtg ctg ctg gcc atg gcc ttt gac cgc tat gtg gct atc 384  
 Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile  
 115 120 125  
 tgc aag cca ctg cac tac acc aag gtc ctg act ggg tcc ctc atc acc 432  
 Cys Lys Pro Leu His Tyr Thr Lys Val Leu Thr Gly Ser Leu Ile Thr  
 130 135 140  
 aag att ggc atg gct gct gtg gcc cgg gct gtg aca cta atg act cca 480  
 Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro  
 145 150 155 160  
 ctc ccc ttc ctg ctg aga tgt ttc cac tac tgc cga ggc cca gtg atc 528  
 Leu Pro Phe Leu Leu Arg Cys Phe His Tyr Cys Arg Gly Pro Val Ile  
 165 170 175  
 gct cac tgc tac tgt gaa cac atg gct gtg gtg agg ctg gcg tgt ggg 576  
 Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly  
 180 185 190  
 gac act agc ttc aac aat atc tat ggc atc gct gtg gcc atg ttt att 624

Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile  
 195 200 205  
 gtg gtg ttg gac ctg ctc ctt gtt atc ctg tct tat atc ttt att ctt 672  
 Val Val Leu Asp Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu  
 210 215 220  
 cag gca gtt cta ctg ctt gcc tct cag gag gcc cac tac aag gca ttt 720  
 Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala His Tyr Lys Ala Phe  
 225 230 235 240  
 ggg aca tgt gtc tct cat ata ggt gcc atc tta gcc ttc tac aca act 768  
 Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr  
 245 250 255  
 gtg gtc atc tct tca gtc atg cac cgt gta gcc cgc cat gct gcc cct 816  
 Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro  
 260 265 270  
 cat gtc cac atc ctc ctt gcc aat ttc tat ctg ctc ttc cca ccc atg 864  
 His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met  
 275 280 285  
 gtc aat ccc ata atc tat ggt gtc aag acc aag caa atc cgt gag agc 912  
 Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Ser  
 290 295 300  
 atc ttg gga gta ttc cca aga aag gat atg tag 945  
 Ile Leu Gly Val Phe Pro Arg Lys Asp Met  
 305 310

<210> 378  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 378

Met Ser Ala Ser Asn Ile Thr Leu Thr His Pro Thr Ala Phe Leu Leu  
 1 5 10 15  
 Val Gly Ile Pro Gly Leu Glu His Leu His Ile Trp Ile Ser Ile Pro  
 20 25 30  
 Phe Cys Leu Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu  
 35 40 45  
 Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe  
 50 55 60  
 Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu  
 65 70 75 80  
 Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe  
 85 90 95



Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met  
 100 105 110

Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile  
 115 120 125

Cys Lys Pro Leu His Tyr Thr Lys Val Leu Thr Gly Ser Leu Ile Thr  
 130 135 140

Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro  
 145 150 155 160

Leu Pro Phe Leu Leu Arg Cys Phe His Tyr Cys Arg Gly Pro Val Ile  
 165 170 175

Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly  
 180 185 190

Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile  
 195 200 205

Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu  
 210 215 220

Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala His Tyr Lys Ala Phe  
 225 230 235 240

Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr  
 245 250 255

Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro  
 260 265 270

His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met  
 275 280 285

Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Ser  
 290 295 300

Ile Leu Gly Val Phe Pro Arg Lys Asp Met  
 305 310

<210> 379

<211> 945

<212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(942)

&lt;223&gt;

&lt;400&gt; 379

atg	ctt	ccc	tct	aat	atc	acc	tca	aca	cat	cca	gct	gtc	ttt	ttg	ttg	48
Met	Leu	Pro	Ser	Asn	Ile	Thr	Ser	Thr	His	Pro	Ala	Val	Phe	Leu	Leu	
1				5					10					15		
gta	gga	att	cct	ggt	ttg	gaa	cac	ctg	cat	gcc	tgg	atc	tcc	atc	ccc	96
Val	Gly	Ile	Pro	Gly	Leu	Glu	His	Leu	His	Ala	Trp	Ile	Ser	Ile	Pro	
			20					25					30			
ttc	tgc	ttt	gct	tat	act	ctg	gcc	ctg	cta	ggc	aac	tgt	acc	ctt	ctc	144
Phe	Cys	Phe	Ala	Tyr	Thr	Leu	Ala	Leu	Leu	Gly	Asn	Cys	Thr	Leu	Leu	
		35					40					45				
ttc	att	atc	cgg	gct	gat	gca	gcc	ctc	cat	gaa	ccc	atg	tac	ctc	ttt	192
Phe	Ile	Ile	Arg	Ala	Asp	Ala	Ala	Leu	His	Glu	Pro	Met	Tyr	Leu	Phe	
	50					55					60					
ctg	gcc	atg	ttg	gca	acc	att	gac	ttg	gtt	ctt	tct	tct	aca	acg	ctg	240
Leu	Ala	Met	Leu	Ala	Thr	Ile	Asp	Leu	Val	Leu	Ser	Ser	Thr	Thr	Leu	
65					70				75					80		
ccc	aaa	atg	ctt	gcc	ata	ttc	tgg	ttc	agg	gat	cag	gag	atc	aac	ttc	288
Pro	Lys	Met	Leu	Ala	Ile	Phe	Trp	Phe	Arg	Asp	Gln	Glu	Ile	Asn	Phe	
			85					90						95		
ttt	gcc	tgt	ctg	gtc	cag	atg	ttc	ttc	ctt	cac	tcc	ttc	tcc	atc	atg	336
Phe	Ala	Cys	Leu	Val	Gln	Met	Phe	Phe	Leu	His	Ser	Phe	Ser	Ile	Met	
			100					105					110			
gag	tca	gca	gtg	ctg	ctg	gcc	atg	gcc	ttt	gac	cgc	tat	gtg	gcc	atc	384
Glu	Ser	Ala	Val	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	
		115					120					125				
tgc	aag	cca	ttg	cac	tac	acg	acg	gtc	ctg	act	ggg	tcc	ctc	atc	acc	432
Cys	Lys	Pro	Leu	His	Tyr	Thr	Thr	Val	Leu	Thr	Gly	Ser	Leu	Ile	Thr	
	130					135					140					
aag	att	ggc	atg	gct	gct	gtg	gcc	tgg	gct	gtg	aca	cta	atg	act	cca	480
Lys	Ile	Gly	Met	Ala	Ala	Val	Ala	Trp	Ala	Val	Thr	Leu	Met	Thr	Pro	
145					150					155				160		
ctc	ccc	ttc	ctg	ctc	aga	cgc	ttc	cac	tac	tgc	cga	ggc	cca	gtg	att	528
Leu	Pro	Phe	Leu	Leu	Arg	Arg	Phe	His	Tyr	Cys	Arg	Gly	Pro	Val	Ile	
			165						170					175		
gcc	cat	tgc	tac	tgt	gaa	cac	atg	gct	gtg	gta	agg	ctg	gcg	tgt	ggg	576
Ala	His	Cys	Tyr	Cys	Glu	His	Met	Ala	Val	Val	Arg	Leu	Ala	Cys	Gly	
			180				185					190				
gac	act	agc	ttc	aac	aat	atc	tat	ggc	att	gct	gtg	gcc	atg	ttt	att	624
Asp	Thr	Ser	Phe	Asn	Asn	Ile	Tyr	Gly	Ile	Ala	Val	Ala	Met	Phe	Ile	
		195					200					205				

gtg gtg ttg gac ctg ctc ttt gtt atc ctg tct tat gtc ttc atc ctt 672  
Val Val Leu Asp Leu Leu Phe Val Ile Leu Ser Tyr Val Phe Ile Leu  
210 215 220

cag gca gtt ctc cag ctt gcc tct cag gag gcc cgc tac aag gca ttt 720  
Gln Ala Val Leu Gln Leu Ala Ser Gln Glu Ala Arg Tyr Lys Ala Phe  
225 230 235 240

ggg aca tgt gtg tct cac ata ggt gcc atc ctg tcc acc tac act cca 768  
Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ser Thr Tyr Thr Pro  
245 250 255

gta gtc atc tct tca gtc atg cac cgt gta gcc cgc cat gct gcc cct 816  
Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro  
260 265 270

cgt gtc cac ata ctc ctt gct att ttc tat ctc ctt ttc cca ccc atg 864  
Arg Val His Ile Leu Leu Ala Ile Phe Tyr Leu Leu Phe Pro Pro Met  
275 280 285

gtc aat cct atc ata tat gga gtc aag acc aag cag att cgt gag tat 912  
Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Tyr  
290 295 300

gtg ctc agt cta ttc cag aga aag aac atg tag 945  
Val Leu Ser Leu Phe Gln Arg Lys Asn Met  
305 310

&lt;210&gt; 380

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 380

Met Leu Pro Ser Asn Ile Thr Ser Thr His Pro Ala Val Phe Leu Leu  
1 5 10 15

Val Gly Ile Pro Gly Leu Glu His Leu His Ala Trp Ile Ser Ile Pro  
20 25 30

Phe Cys Phe Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu  
35 40 45

Phe Ile Ile Arg Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe  
50 55 60

Leu Ala Met Leu Ala Thr Ile Asp Leu Val Leu Ser Ser Thr Thr Leu  
65 70 75 80

Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Gln Glu Ile Asn Phe  
85 90 95

Phe Ala Cys Leu Val Gln Met Phe Phe Leu His Ser Phe Ser Ile Met

100	105	110
Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile 115 120 125		
Cys Lys Pro Leu His Tyr Thr Thr Val Leu Thr Gly Ser Leu Ile Thr 130 135 140		
Lys Ile Gly Met Ala Ala Val Ala Trp Ala Val Thr Leu Met Thr Pro 145 150 155 160		
Leu Pro Phe Leu Leu Arg Arg Phe His Tyr Cys Arg Gly Pro Val Ile 165 170 175		
Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly 180 185 190		
Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile 195 200 205		
Val Val Leu Asp Leu Leu Phe Val Ile Leu Ser Tyr Val Phe Ile Leu 210 215 220		
Gln Ala Val Leu Gln Leu Ala Ser Gln Glu Ala Arg Tyr Lys Ala Phe 225 230 235 240		
Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ser Thr Tyr Thr Pro 245 250 255		
Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro 260 265 270		
Arg Val His Ile Leu Leu Ala Ile Phe Tyr Leu Leu Phe Pro Pro Met 275 280 285		
Val Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Tyr 290 295 300		
Val Leu Ser Leu Phe Gln Arg Lys Asn Met 305 310		

<210> 381  
 <211> 957  
 <212> DNA  
 <213> Homo Sapiens

<220>

&lt;221&gt; CDS

&lt;222&gt; (1) .. (954)

&lt;223&gt;

&lt;400&gt; 381

atg cct act gta aac cac agt ggc act agc cac aca gtc ttc cac ttg	48
Met Pro Thr Val Asn His Ser Gly Thr Ser His Thr Val Phe His Leu	
1 5 10 15	
ctg ggc atc cct ggc cta cag gac cag cac atg tgg att tct atc cca	96
Leu Gly Ile Pro Gly Leu Gln Asp Gln His Met Trp Ile Ser Ile Pro	
20 25 30	
ttc ttc att tcc tat gtc acc gcc ctt ctt ggg aac agc ctg ctc atc	144
Phe Phe Ile Ser Tyr Val Thr Ala Leu Leu Gly Asn Ser Leu Leu Ile	
35 40 45	
ttc att atc ctc aca aag cgc agc ctc cat gaa ccc atg tac ctc ttc	192
Phe Ile Ile Leu Thr Lys Arg Ser Leu His Glu Pro Met Tyr Leu Phe	
50 55 60	
ctc tgc atg ctg gct gga gca gac att gtc ctc tcc acg tgc acc att	240
Leu Cys Met Leu Ala Gly Ala Asp Ile Val Leu Ser Thr Cys Thr Ile	
65 70 75 80	
cct cag gcc tta gct atc ttc tgg ttc cgt gct ggg gac atc tcc ctg	288
Pro Gln Ala Leu Ala Ile Phe Trp Phe Arg Ala Gly Asp Ile Ser Leu	
85 90 95	
gat cgt tgc atc act cag ctc ttc ttc atc cat tcc acc ttc atc tct	336
Asp Arg Cys Ile Thr Gln Leu Phe Phe Ile His Ser Thr Phe Ile Ser	
100 105 110	
gag tca ggg atc ttg ctg gtg atg gcc ttt gac cac tat att gcc ata	384
Glu Ser Gly Ile Leu Leu Val Met Ala Phe Asp His Tyr Ile Ala Ile	
115 120 125	
tgc tac cca ctg agg tac acc acc att ctt aca aat gct ctg atc aag	432
Cys Tyr Pro Leu Arg Tyr Thr Thr Ile Leu Thr Asn Ala Leu Ile Lys	
130 135 140	
aaa att tgt gtg act gtc tct ctg aga agt tat ggt aca att ttc cct	480
Lys Ile Cys Val Thr Val Ser Leu Arg Ser Tyr Gly Thr Ile Phe Pro	
145 150 155 160	
atc ata ttt ctt tta aaa aga ttg act ttc tgc cag aat aat att att	528
Ile Ile Phe Leu Leu Lys Arg Leu Thr Phe Cys Gln Asn Asn Ile Ile	
165 170 175	
cca cac acc ttt tgt gaa cac att ggc cta gcc aaa tat gca tgt aat	576
Pro His Thr Phe Cys Glu His Ile Gly Leu Ala Lys Tyr Ala Cys Asn	
180 185 190	
gac att cga ata aac att tgg tat ggg ttt tcc att cta atg tgc acg	624
Asp Ile Arg Ile Asn Ile Trp Tyr Gly Phe Ser Ile Leu Met Ser Thr	
195 200 205	
gtg gtc tta gat gtt gta cta att ttt att tcc tat atg ctg att ctc	672
Val Val Leu Asp Val Val Leu Ile Phe Ile Ser Tyr Met Leu Ile Leu	
210 215 220	

cat gct gtc ttc cac atg cct tct cca gat gct tgc cac aaa gct ctc 720  
 His Ala Val Phe His Met Pro Ser Pro Asp Ala Cys His Lys Ala Leu  
 225 230 235 240

aac aca ttt ggc tcc cat gtc tgc atc atc atc ctc ttt tat ggg tct 768  
 Asn Thr Phe Gly Ser His Val Cys Ile Ile Ile Leu Phe Tyr Gly Ser  
 245 250 255

ggc atc ttc aca atc ctt acc cag agg ttt gga cgc cac att cca cct 816  
 Gly Ile Phe Thr Ile Leu Thr Gln Arg Phe Gly Arg His Ile Pro Pro  
 260 265 270

tgt atc cac atc ccg ttg gct aat gtc tgc att ctg gct cca cct atg 864  
 Cys Ile His Ile Pro Leu Ala Asn Val Cys Ile Leu Ala Pro Pro Met  
 275 280 285

ctg aat ccc att att tat ggg atc aaa acc aag caa atc cag gaa cag 912  
 Leu Asn Pro Ile Ile Tyr Gly Ile Lys Thr Lys Gln Ile Gln Glu Gln  
 290 295 300

gtg gtt cag ttt ttg ttt ata aaa cag aaa ata act ttg gtt taa 957  
 Val Val Gln Phe Leu Phe Ile Lys Gln Lys Ile Thr Leu Val  
 305 310 315

<210> 382

<211> 318

<212> PRT

<213> Homo Sapiens

<400> 382

Met Pro Thr Val Asn His Ser Gly Thr Ser His Thr Val Phe His Leu  
 1 5 10 15

Leu Gly Ile Pro Gly Leu Gln Asp Gln His Met Trp Ile Ser Ile Pro  
 20 25 30

Phe Phe Ile Ser Tyr Val Thr Ala Leu Leu Gly Asn Ser Leu Leu Ile  
 35 40 45

Phe Ile Ile Leu Thr Lys Arg Ser Leu His Glu Pro Met Tyr Leu Phe  
 50 55 60

Leu Cys Met Leu Ala Gly Ala Asp Ile Val Leu Ser Thr Cys Thr Ile  
 65 70 75 80

Pro Gln Ala Leu Ala Ile Phe Trp Phe Arg Ala Gly Asp Ile Ser Leu  
 85 90 95

Asp Arg Cys Ile Thr Gln Leu Phe Phe Ile His Ser Thr Phe Ile Ser  
 100 105 110

Glu Ser Gly Ile Leu Leu Val Met Ala Phe Asp His Tyr Ile Ala Ile  
 115 120 125

Cys Tyr Pro Leu Arg Tyr Thr Thr Ile Leu Thr Asn Ala Leu Ile Lys  
 130 135 140

Lys Ile Cys Val Thr Val Ser Leu Arg Ser Tyr Gly Thr Ile Phe Pro  
 145 150 155 160

Ile Ile Phe Leu Leu Lys Arg Leu Thr Phe Cys Gln Asn Asn Ile Ile  
 165 170 175

Pro His Thr Phe Cys Glu His Ile Gly Leu Ala Lys Tyr Ala Cys Asn  
 180 185 190

Asp Ile Arg Ile Asn Ile Trp Tyr Gly Phe Ser Ile Leu Met Ser Thr  
 195 200 205

Val Val Leu Asp Val Val Leu Ile Phe Ile Ser Tyr Met Leu Ile Leu  
 210 215 220

His Ala Val Phe His Met Pro Ser Pro Asp Ala Cys His Lys Ala Leu  
 225 230 235 240

Asn Thr Phe Gly Ser His Val Cys Ile Ile Ile Leu Phe Tyr Gly Ser  
 245 250 255

Gly Ile Phe Thr Ile Leu Thr Gln Arg Phe Gly Arg His Ile Pro Pro  
 260 265 270

Cys Ile His Ile Pro Leu Ala Asn Val Cys Ile Leu Ala Pro Pro Met  
 275 280 285

Leu Asn Pro Ile Ile Tyr Gly Ile Lys Thr Lys Gln Ile Gln Glu Gln  
 290 295 300

Val Val Gln Phe Leu Phe Ile Lys Gln Lys Ile Thr Leu Val  
 305 310 315

<210> 383  
 <211> 966  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (963)  
 <223>

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<400> 383
atg tct ggg gac aac agc tcc agc ctg acc cca gga ttc ttt atc ttg      48
Met Ser Gly Asp Asn Ser Ser Ser Leu Thr Pro Gly Phe Phe Ile Leu
1          5          10          15

aat ggc gtt cct ggg ctg gaa gcc aca cac atc tgg atc tcc ctg cca      96
Asn Gly Val Pro Gly Leu Glu Ala Thr His Ile Trp Ile Ser Leu Pro
          20          25          30

ttc tgc ttt atg tac atc att gct gtc gtg ggg aac tgt ggg ctc atc      144
Phe Cys Phe Met Tyr Ile Ile Ala Val Val Gly Asn Cys Gly Leu Ile
          35          40          45

tgc ctc atc agc cat gag gag gcc ctg cac cgg ccc atg tac tac ttc      192
Cys Leu Ile Ser His Glu Glu Ala Leu His Arg Pro Met Tyr Tyr Phe
          50          55          60

ctg gcc ctg ctc tcc ttc act gat gtc acc ttg tgc acc acc atg gta      240
Leu Ala Leu Leu Ser Phe Thr Asp Val Thr Leu Cys Thr Thr Met Val
65          70          75          80

cct aat atg ctg tgc ata ttc tgg ttc aac ctc aag gag att gac ttt      288
Pro Asn Met Leu Cys Ile Phe Trp Phe Asn Leu Lys Glu Ile Asp Phe
          85          90          95

aac gcc tgc ctg gcc cag atg ttt ttt gtc cat atg ctg aca ggg atg      336
Asn Ala Cys Leu Ala Gln Met Phe Phe Val His Met Leu Thr Gly Met
          100          105          110

gag tct ggg gtg ctc atg ctc atg gcc ctg gac cgc tat gtg gcc atc      384
Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile
          115          120          125

tgc tac ccc tta cgc tat gcc acc atc ctt acc aac cct gtc atc gcc      432
Cys Tyr Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Pro Val Ile Ala
          130          135          140

aag gct ggt ctt gcc acc ttc ttg agg aat gtg atg ctc atc atc cca      480
Lys Ala Gly Leu Ala Thr Phe Leu Arg Asn Val Met Leu Ile Ile Pro
145          150          155          160

ttc act ctc ctc acc aag cgc ctg ccc tat tgc cgg ggg aac ttc atc      528
Phe Thr Leu Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Phe Ile
          165          170          175

ccc cac acc tac tgt gac cat atg tct gtg gcc aag gta tcc tgt ggc      576
Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Val Ser Cys Gly
          180          185          190

aat ttc aag gtc aat gct att tat ggt ctg atg gtt gct ctc ctg att      624
Asn Phe Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile
          195          200          205

ggt gtg ttt gat atc tgc tgt atc tct gta tct tac act atg att ttg      672
Gly Val Phe Asp Ile Cys Cys Ile Ser Val Ser Tyr Thr Met Ile Leu
          210          215          220

cag gct gtt atg agc ctg tca tca gca gat gct cgt cac aaa gcc ttc      720
Gln Ala Val Met Ser Leu Ser Ser Ala Asp Ala Arg His Lys Ala Phe

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225	230	235	240	
agc acc tgc aca tct cac atg tgt tcc att gtg atc acc tat gtt gct				768
Ser Thr Cys Thr Ser His Met Cys Ser Ile Val Ile Thr Tyr Val Ala	245	250	255	
gct ttt ttc act ttt ttc act cat cgt ttt gta gga cac aat atc cca				816
Ala Phe Phe Thr Phe Phe Thr His Arg Phe Val Gly His Asn Ile Pro	260	265	270	
aac cac ata cac atc atc gtg gcc aac ctt tat ctg cta ctg cct cct				864
Asn His Ile His Ile Ile Val Ala Asn Leu Tyr Leu Leu Leu Pro Pro	275	280	285	
acc atg aac cca att gtt tat gga gtc aag acc aag cag att cag gaa				912
Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Gln Glu	290	295	300	
ggg gta att aaa ttt tta ctt gga gac aag gtt agt ttt acc tat gac				960
Gly Val Ile Lys Phe Leu Leu Gly Asp Lys Val Ser Phe Thr Tyr Asp	305	310	315	320
aaa tga				966
Lys				

<210> 384  
 <211> 321  
 <212> PRT  
 <213> Homo Sapiens  
  
 <400> 384

Met Ser Gly Asp Asn Ser Ser Ser Leu Thr Pro Gly Phe Phe Ile Leu	1	5	10	15
Asn Gly Val Pro Gly Leu Glu Ala Thr His Ile Trp Ile Ser Leu Pro	20	25	30	
Phe Cys Phe Met Tyr Ile Ile Ala Val Val Gly Asn Cys Gly Leu Ile	35	40	45	
Cys Leu Ile Ser His Glu Glu Ala Leu His Arg Pro Met Tyr Tyr Phe	50	55	60	
Leu Ala Leu Leu Ser Phe Thr Asp Val Thr Leu Cys Thr Thr Met Val	65	70	75	80
Pro Asn Met Leu Cys Ile Phe Trp Phe Asn Leu Lys Glu Ile Asp Phe	85	90	95	
Asn Ala Cys Leu Ala Gln Met Phe Phe Val His Met Leu Thr Gly Met	100	105	110	

Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile  
 115 120 125

Cys Tyr Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Pro Val Ile Ala  
 130 135 140

Lys Ala Gly Leu Ala Thr Phe Leu Arg Asn Val Met Leu Ile Ile Pro  
 145 150 155 160

Phe Thr Leu Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Phe Ile  
 165 170 175

Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Val Ser Cys Gly  
 180 185 190

Asn Phe Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile  
 195 200 205

Gly Val Phe Asp Ile Cys Cys Ile Ser Val Ser Tyr Thr Met Ile Leu  
 210 215 220

Gln Ala Val Met Ser Leu Ser Ser Ala Asp Ala Arg His Lys Ala Phe  
 225 230 235 240

Ser Thr Cys Thr Ser His Met Cys Ser Ile Val Ile Thr Tyr Val Ala  
 245 250 255

Ala Phe Phe Thr Phe Phe Thr His Arg Phe Val Gly His Asn Ile Pro  
 260 265 270

Asn His Ile His Ile Ile Val Ala Asn Leu Tyr Leu Leu Leu Pro Pro  
 275 280 285

Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Gln Glu  
 290 295 300

Gly Val Ile Lys Phe Leu Leu Gly Asp Lys Val Ser Phe Thr Tyr Asp  
 305 310 315 320

Lys

<210> 385  
 <211> 984  
 <212> DNA  
 <213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (981)

&lt;223&gt;

&lt;400&gt; 385

atg	ctt	cat	acc	aac	aat	aca	cag	ttt	cac	cct	tcc	acc	ttc	ctc	gta	48
Met	Leu	His	Thr	Asn	Asn	Thr	Gln	Phe	His	Pro	Ser	Thr	Phe	Leu	Val	
1				5				10						15		

gtg	ggg	gtc	cca	ggg	ctg	gaa	gat	gtg	cat	gta	tgg	att	ggc	ttc	ccc	96
Val	Gly	Val	Pro	Gly	Leu	Glu	Asp	Val	His	Val	Trp	Ile	Gly	Phe	Pro	
			20					25					30			

ttc	ttt	gcg	gtg	tat	cta	aca	gcc	ctt	cta	ggg	aac	atc	att	atc	ctg	144
Phe	Phe	Ala	Val	Tyr	Leu	Thr	Ala	Leu	Leu	Gly	Asn	Ile	Ile	Ile	Leu	
		35					40					45				

ttt	gtg	ata	cag	act	gaa	cag	agc	ctc	cac	caa	ccc	atg	ttt	tac	ttc	192
Phe	Val	Ile	Gln	Thr	Glu	Gln	Ser	Leu	His	Gln	Pro	Met	Phe	Tyr	Phe	
	50					55					60					

cta	gcc	atg	ttg	gcc	ggc	act	gat	ctg	ggc	ttg	tct	aca	gca	acc	atc	240
Leu	Ala	Met	Leu	Ala	Gly	Thr	Asp	Leu	Gly	Leu	Ser	Thr	Ala	Thr	Ile	
65					70					75					80	

ccc	aag	atg	ctg	gga	att	ttc	tgg	ttt	aat	ctt	gga	gag	att	gca	ttt	288
Pro	Lys	Met	Leu	Gly	Ile	Phe	Trp	Phe	Asn	Leu	Gly	Glu	Ile	Ala	Phe	
				85					90					95		

ggt	gcc	tgc	atc	aca	cag	atg	tat	acc	att	cat	ata	tgc	act	ggc	ctg	336
Gly	Ala	Cys	Ile	Thr	Gln	Met	Tyr	Thr	Ile	His	Ile	Cys	Thr	Gly	Leu	
			100					105					110			

gag	tct	gtg	gta	ctg	aca	gtc	acg	ggc	ata	gat	cgc	tat	att	gcc	atc	384
Glu	Ser	Val	Val	Leu	Thr	Val	Thr	Gly	Ile	Asp	Arg	Tyr	Ile	Ala	Ile	
		115					120					125				

tgc	aac	ccc	ctg	aga	tat	agc	atg	atc	ctt	acc	aac	aag	gta	ata	gcc	432
Cys	Asn	Pro	Leu	Arg	Tyr	Ser	Met	Ile	Leu	Thr	Asn	Lys	Val	Ile	Ala	
	130					135					140					

att	ctg	ggc	ata	gtc	atc	att	gtc	agg	act	ttg	gta	ttt	gtg	act	cca	480
Ile	Leu	Gly	Ile	Val	Ile	Ile	Val	Arg	Thr	Leu	Val	Phe	Val	Thr	Pro	
145					150					155					160	

ttc	aca	ttt	ctc	acc	ctg	aga	ttg	cct	ttc	tgt	ggt	gtc	cgg	att	atc	528
Phe	Thr	Phe	Leu	Thr	Leu	Arg	Leu	Pro	Phe	Cys	Gly	Val	Arg	Ile	Ile	
				165					170					175		

cct	cat	acc	tat	tgt	gaa	cac	atg	ggc	ttg	gca	aag	tta	gct	tgt	gcc	576
Pro	His	Thr	Tyr	Cys	Glu	His	Met	Gly	Leu	Ala	Lys	Leu	Ala	Cys	Ala	
			180					185					190			

agt	att	aat	gtt	ata	tat	gga	ttg	att	gcc	ttc	tca	gtg	gga	tac	att	624
Ser	Ile	Asn	Val	Ile	Tyr	Gly	Leu	Ile	Ala	Phe	Ser	Val	Gly	Tyr	Ile	
		195					200					205				

gac	att	tct	gtg	att	gga	ttt	tcc	tat	gtc	cag	atc	ctc	cga	gct	gtc	672
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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Asp Ile Ser Val Ile Gly Phe Ser Tyr Val Gln Ile Leu Arg Ala Val
210                               215                               220

ttc cat ctc cca gcc tgg gat gcc cgg ctt aag gca ctc agc aca tgt      720
Phe His Leu Pro Ala Trp Asp Ala Arg Leu Lys Ala Leu Ser Thr Cys
225                               230                               235                               240

ggc tct cac gtc tgt gtt atg ttg gct ttc tac ctg cca gcc ctc ttt      768
Gly Ser His Val Cys Val Met Leu Ala Phe Tyr Leu Pro Ala Leu Phe
245                               250                               255

tcc ttc atg aca cac cgc ttt ggc cac aac atc cct cat tac atc cac      816
Ser Phe Met Thr His Arg Phe Gly His Asn Ile Pro His Tyr Ile His
260                               265                               270

att ctt ctg gcc aat ctg tat gtg gtt ttt ccc cct gct ctt aac tct      864
Ile Leu Leu Ala Asn Leu Tyr Val Val Phe Pro Pro Ala Leu Asn Ser
275                               280                               285

gtt atc tat ggg gtc aaa aca aaa cag ata cga gag cag gta ctt agg      912
Val Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gln Val Leu Arg
290                               295                               300

ata ctc aac cct aaa agc ttt tgg cat ttt gac ccc aag agg atc ttc      960
Ile Leu Asn Pro Lys Ser Phe Trp His Phe Asp Pro Lys Arg Ile Phe
305                               310                               315                               320

cac aac aat tca gtt aga caa taa      984
His Asn Asn Ser Val Arg Gln
325

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<210> 386
<211> 327
<212> PRT
<213> Homo Sapiens

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<400> 386

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Met Leu His Thr Asn Asn Thr Gln Phe His Pro Ser Thr Phe Leu Val
1                               5                               10                               15

Val Gly Val Pro Gly Leu Glu Asp Val His Val Trp Ile Gly Phe Pro
20                               25                               30

Phe Phe Ala Val Tyr Leu Thr Ala Leu Leu Gly Asn Ile Ile Ile Leu
35                               40                               45

Phe Val Ile Gln Thr Glu Gln Ser Leu His Gln Pro Met Phe Tyr Phe
50                               55                               60

Leu Ala Met Leu Ala Gly Thr Asp Leu Gly Leu Ser Thr Ala Thr Ile
65                               70                               75                               80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gly Glu Ile Ala Phe
85                               90                               95

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Gly Ala Cys Ile Thr Gln Met Tyr Thr Ile His Ile Cys Thr Gly Leu  
 100 105 110

Glu Ser Val Val Leu Thr Val Thr Gly Ile Asp Arg Tyr Ile Ala Ile  
 115 120 125

Cys Asn Pro Leu Arg Tyr Ser Met Ile Leu Thr Asn Lys Val Ile Ala  
 130 135 140

Ile Leu Gly Ile Val Ile Ile Val Arg Thr Leu Val Phe Val Thr Pro  
 145 150 155 160

Phe Thr Phe Leu Thr Leu Arg Leu Pro Phe Cys Gly Val Arg Ile Ile  
 165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala Lys Leu Ala Cys Ala  
 180 185 190

Ser Ile Asn Val Ile Tyr Gly Leu Ile Ala Phe Ser Val Gly Tyr Ile  
 195 200 205

Asp Ile Ser Val Ile Gly Phe Ser Tyr Val Gln Ile Leu Arg Ala Val  
 210 215 220

Phe His Leu Pro Ala Trp Asp Ala Arg Leu Lys Ala Leu Ser Thr Cys  
 225 230 235 240

Gly Ser His Val Cys Val Met Leu Ala Phe Tyr Leu Pro Ala Leu Phe  
 245 250 255

Ser Phe Met Thr His Arg Phe Gly His Asn Ile Pro His Tyr Ile His  
 260 265 270

Ile Leu Leu Ala Asn Leu Tyr Val Val Phe Pro Pro Ala Leu Asn Ser  
 275 280 285

Val Ile Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gln Val Leu Arg  
 290 295 300

Ile Leu Asn Pro Lys Ser Phe Trp His Phe Asp Pro Lys Arg Ile Phe  
 305 310 315 320

His Asn Asn Ser Val Arg Gln  
 325

<210> 387  
 <211> 963  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(960)  
 <223>

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<400> 387
atg tca ttt cta aat ggc acc agc cta act cca gct tca ttc atc cta      48
Met Ser Phe Leu Asn Gly Thr Ser Leu Thr Pro Ala Ser Phe Ile Leu
1          5          10          15

aat ggc atc cct ggt ttg gaa gat gtg cat ttg tgg atc tcc ttc cca      96
Asn Gly Ile Pro Gly Leu Glu Asp Val His Leu Trp Ile Ser Phe Pro
          20          25          30

ctg tgt acc atg tac agc att gct att aca ggg aac ttc ggc ctt atg      144
Leu Cys Thr Met Tyr Ser Ile Ala Ile Thr Gly Asn Phe Gly Leu Met
          35          40          45

tac ctc atc tac tgt gat gag gcc tta cac aga cct atg tat gtc ttc      192
Tyr Leu Ile Tyr Cys Asp Glu Ala Leu His Arg Pro Met Tyr Val Phe
          50          55          60

ctt gcc ctt ctt tcc ttc aca gat gtg ctc atg tgc acc agc acc ctt      240
Leu Ala Leu Leu Ser Phe Thr Asp Val Leu Met Cys Thr Ser Thr Leu
        65          70          75          80

ccc aac act ctc ttc ata ttg tgg ttt aat ctc aag gag att gat ttt      288
Pro Asn Thr Leu Phe Ile Leu Trp Phe Asn Leu Lys Glu Ile Asp Phe
          85          90          95

aaa gcc tgc ctc gcc cag atg ttc ttt gtg cac acc ttc aca ggg atg      336
Lys Ala Cys Leu Ala Gln Met Phe Phe Val His Thr Phe Thr Gly Met
          100          105          110

gag tct ggg gtg ctc atg ctc atg gcc ctg gac cac tgt gtg gcc atc      384
Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp His Cys Val Ala Ile
          115          120          125

tgc ttc cct ctg cgt tat gcc acc atc ctc act aat tca gtc att gct      432
Cys Phe Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Ser Val Ile Ala
          130          135          140

aaa gct ggg ttc ctc act ttt ctt agg ggt gtg atg ctt gtt atc cct      480
Lys Ala Gly Phe Leu Thr Phe Leu Arg Gly Val Met Leu Val Ile Pro
          145          150          155

tcc act ttc ctc acc aag cgc ctt cca tac tgc aag ggc aac gtc ata      528
Ser Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Lys Gly Asn Val Ile
          165          170          175

ccc cac acc tac tgt gac cac atg tct gtg gcc aag ata tct tgt ggt      576
Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Ile Ser Cys Gly
          180          185          190

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aat gtc agg gtt aac gcc atc tat ggt ttg ata gtt gcc ctg ctg att 624  
 Asn Val Arg Val Asn Ala Ile Tyr Gly Leu Ile Val Ala Leu Leu Ile  
 195 200 205  
 ggg ggc ttt gat atc ctg tgc att aca atc tcc tac act atg att ctt 672  
 Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu  
 210 215 220  
 caa gca gtt gtg agt cta tca tca gca gat gct cga cag aag gcc ttc 720  
 Gln Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe  
 225 230 235 240  
 agc acc tgc act gcc cac ttc tgt gcc ata gtc ctc acc tat gtt cca 768  
 Ser Thr Cys Thr Ala His Phe Cys Ala Ile Val Leu Thr Tyr Val Pro  
 245 250 255  
 gcc ttc ttt acc ttc ttt aca cac cat ttt ggg gga cac acc att cct 816  
 Ala Phe Phe Thr Phe Phe Thr His His Phe Gly Gly His Thr Ile Pro  
 260 265 270  
 cta cac ata cat att att atg gct aat ctc tac cta cta atg cct ccc 864  
 Leu His Ile His Ile Ile Met Ala Asn Leu Tyr Leu Leu Met Pro Pro  
 275 280 285  
 aca atg aac cct att gtg tat ggg gtg aaa acc agg cag gta cga gaa 912  
 Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Arg Gln Val Arg Glu  
 290 295 300  
 agt gtc att agg ttc ttt ctt aag gga aag gac aat tct cat aac ttt 960  
 Ser Val Ile Arg Phe Phe Leu Lys Gly Lys Asp Asn Ser His Asn Phe  
 305 310 315 320  
 taa 963

<210> 388  
 <211> 320  
 <212> PRT  
 <213> Homo Sapiens

<400> 388

Met Ser Phe Leu Asn Gly Thr Ser Leu Thr Pro Ala Ser Phe Ile Leu  
1 5 10 15

Asn Gly Ile Pro Gly Leu Glu Asp Val His Leu Trp Ile Ser Phe Pro  
20 25 30

Leu Cys Thr Met Tyr Ser Ile Ala Ile Thr Gly Asn Phe Gly Leu Met  
35 40 45

Tyr Leu Ile Tyr Cys Asp Glu Ala Leu His Arg Pro Met Tyr Val Phe  
50 55 60

Leu Ala Leu Leu Ser Phe Thr Asp Val Leu Met Cys Thr Ser Thr Leu  
65 70 75 80

Pro Asn Thr Leu Phe Ile Leu Trp Phe Asn Leu Lys Glu Ile Asp Phe  
 85 90 95

Lys Ala Cys Leu Ala Gln Met Phe Phe Val His Thr Phe Thr Gly Met  
 100 105 110

Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp His Cys Val Ala Ile  
 115 120 125

Cys Phe Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asn Ser Val Ile Ala  
 130 135 140

Lys Ala Gly Phe Leu Thr Phe Leu Arg Gly Val Met Leu Val Ile Pro  
 145 150 155 160

Ser Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Lys Gly Asn Val Ile  
 165 170 175

Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Ile Ser Cys Gly  
 180 185 190

Asn Val Arg Val Asn Ala Ile Tyr Gly Leu Ile Val Ala Leu Leu Ile  
 195 200 205

Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu  
 210 215 220

Gln Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe  
 225 230 235 240

Ser Thr Cys Thr Ala His Phe Cys Ala Ile Val Leu Thr Tyr Val Pro  
 245 250 255

Ala Phe Phe Thr Phe Phe Thr His His Phe Gly Gly His Thr Ile Pro  
 260 265 270

Leu His Ile His Ile Ile Met Ala Asn Leu Tyr Leu Leu Met Pro Pro  
 275 280 285

Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Arg Gln Val Arg Glu  
 290 295 300

Ser Val Ile Arg Phe Phe Leu Lys Gly Lys Asp Asn Ser His Asn Phe  
 305 310 315 320



<210> 389  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)  
 <223>

<400> 389  
 atg aca aca cac cga aat gac acc ctc tcc act gaa gct tca gac ttc 48  
 Met Thr Thr His Arg Asn Asp Thr Leu Ser Thr Glu Ala Ser Asp Phe  
 1 5 10 15  
 ctc ttg aat tgt ttt gtc aga tcc ccc agc tgg cag cac tgg ctg tcc 96  
 Leu Leu Asn Cys Phe Val Arg Ser Pro Ser Trp Gln His Trp Leu Ser  
 20 25 30  
 ctg ccc ctc agc ctc ctt ttc ctc ttg gcc gta ggg gcc aac acc acc 144  
 Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Val Gly Ala Asn Thr Thr  
 35 40 45  
 ctc ctg atg acc atc tgg ctg gag gcc tct ctg cac cag ccc ctg tac 192  
 Leu Leu Met Thr Ile Trp Leu Glu Ala Ser Leu His Gln Pro Leu Tyr  
 50 55 60  
 tac ctg ctc agc ctc ctc tcc ctg ctg gac atc gtg ctc tgc ctc act 240  
 Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu Cys Leu Thr  
 65 70 75 80  
 gtc atc ccc aag gtc ctg acc atc ttc tgg ttt gac ctc agg ccc atc 288  
 Val Ile Pro Lys Val Leu Thr Ile Phe Trp Phe Asp Leu Arg Pro Ile  
 85 90 95  
 agc ttc cct gcc tgc ttc ctc cag atg tac atc atg aat tgt ttc cta 336  
 Ser Phe Pro Ala Cys Phe Leu Gln Met Tyr Ile Met Asn Cys Phe Leu  
 100 105 110  
 gcc atg gag tct tgc aca ttc atg gtc atg gcc tat gat cgt tat gta 384  
 Ala Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp Arg Tyr Val  
 115 120 125  
 gcc atc tgc cac cca ctg aga tat cca tca atc atc act gat cac ttt 432  
 Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr Asp His Phe  
 130 135 140  
 gta gtc aag gct gcc atg ttt att ttg acc aga aat gtg ctt atg act 480  
 Val Val Lys Ala Ala Met Phe Ile Leu Thr Arg Asn Val Leu Met Thr  
 145 150 155 160  
 ctg ccc atc ccc atc ctt tca gca caa ctc cgt tat tgt gga aga aat 528  
 Leu Pro Ile Pro Ile Leu Ser Ala Gln Leu Arg Tyr Cys Gly Arg Asn  
 165 170 175  
 gtc att gag aac tgc atc tgt gcc aat atg tct gtt tcc aga ctc tcc 576  
 Val Ile Glu Asn Cys Ile Cys Ala Asn Met Ser Val Ser Arg Leu Ser  
 180 185 190  
 tgc gat gat gtc acc atc aat cac ctt tac caa ttt gct gga ggc tgg 624

Cys Asp Asp Val Thr Ile Asn His Leu Tyr Gln Phe Ala Gly Gly Trp  
 195 200 205  
 act ctg cta gga tct gac ctc atc ctt atc ttc ctc tcc tac acc ttc 672  
 Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Phe Leu Ser Tyr Thr Phe  
 210 215 220  
 att ctg cga gct gtg ctg aga ctc aag gca gag ggt gcc gtg gca aag 720  
 Ile Leu Arg Ala Val Leu Arg Leu Lys Ala Glu Gly Ala Val Ala Lys  
 225 230 235 240  
 gcc cta agc aca tgt ggc tcc cac ttc atg ctc atc ctc ttc ttc agc 768  
 Ala Leu Ser Thr Cys Gly Ser His Phe Met Leu Ile Leu Phe Phe Ser  
 245 250 255  
 acc atc ctt ctg gtt ttt gtc ctc aca cat gtg gct aag aag aaa gtc 816  
 Thr Ile Leu Leu Val Phe Val Leu Thr His Val Ala Lys Lys Lys Val  
 260 265 270  
 tcc cct gat gtg cca gtc ttg ctc aat gtt ctc cac cat gtc att cct 864  
 Ser Pro Asp Val Pro Val Leu Leu Asn Val Leu His His Val Ile Pro  
 275 280 285  
 gca gcc ctt aac ccc atc att tac ggg gtg aga acc caa gaa att aag 912  
 Ala Ala Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Gln Glu Ile Lys  
 290 295 300  
 cag gga atg cag agg ttg ttg aag aaa ggg tgc taa 948  
 Gln Gly Met Gln Arg Leu Leu Lys Lys Gly Cys  
 305 310 315  
 <210> 390  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens  
 <400> 390  
 Met Thr Thr His Arg Asn Asp Thr Leu Ser Thr Glu Ala Ser Asp Phe  
 1 5 10 15  
 Leu Leu Asn Cys Phe Val Arg Ser Pro Ser Trp Gln His Trp Leu Ser  
 20 25 30  
 Leu Pro Leu Ser Leu Leu Phe Leu Leu Ala Val Gly Ala Asn Thr Thr  
 35 40 45  
 Leu Leu Met Thr Ile Trp Leu Glu Ala Ser Leu His Gln Pro Leu Tyr  
 50 55 60  
 Tyr Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu Cys Leu Thr  
 65 70 75 80  
 Val Ile Pro Lys Val Leu Thr Ile Phe Trp Phe Asp Leu Arg Pro Ile  
 85 90 95

Ser Phe Pro Ala Cys Phe Leu Gln Met Tyr Ile Met Asn Cys Phe Leu  
 100 105 110

Ala Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp Arg Tyr Val  
 115 120 125

Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr Asp His Phe  
 130 135 140

Val Val Lys Ala Ala Met Phe Ile Leu Thr Arg Asn Val Leu Met Thr  
 145 150 155 160

Leu Pro Ile Pro Ile Leu Ser Ala Gln Leu Arg Tyr Cys Gly Arg Asn  
 165 170 175

Val Ile Glu Asn Cys Ile Cys Ala Asn Met Ser Val Ser Arg Leu Ser  
 180 185 190

Cys Asp Asp Val Thr Ile Asn His Leu Tyr Gln Phe Ala Gly Gly Trp  
 195 200 205

Thr Leu Leu Gly Ser Asp Leu Ile Leu Ile Phe Leu Ser Tyr Thr Phe  
 210 215 220

Ile Leu Arg Ala Val Leu Arg Leu Lys Ala Glu Gly Ala Val Ala Lys  
 225 230 235 240

Ala Leu Ser Thr Cys Gly Ser His Phe Met Leu Ile Leu Phe Phe Ser  
 245 250 255

Thr Ile Leu Leu Val Phe Val Leu Thr His Val Ala Lys Lys Lys Val  
 260 265 270

Ser Pro Asp Val Pro Val Leu Leu Asn Val Leu His His Val Ile Pro  
 275 280 285

Ala Ala Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Gln Glu Ile Lys  
 290 295 300

Gln Gly Met Gln Arg Leu Leu Lys Lys Gly Cys  
 305 310 315

<210> 391

<211> 942

<212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(939)

&lt;223&gt;

&lt;400&gt; 391

atg cct ata gct aac gac acc cag ttc cat act tct tca ttc cta ctg	48
Met Pro Ile Ala Asn Asp Thr Gln Phe His Thr Ser Ser Phe Leu Leu	
1 5 10 15	
ctg ggt atc cca ggg cta gaa gat gtg cac atc tgg att gga ttc cct	96
Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe Pro	
20 25 30	
ttt ttc tct gtg tat ctt att gca ctc ctg gga aat gct gct atc ttc	144
Phe Phe Ser Val Tyr Leu Ile Ala Leu Leu Gly Asn Ala Ala Ile Phe	
35 40 45	
ttt gtg atc caa act gag cag agt ctc cat gag ccc atg tac tac tgc	192
Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Cys	
50 55 60	
ctg gcc atg ttg gat tcc att gac ctg agc ttg tct acg gcc acc att	240
Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr Ile	
65 70 75 80	
ccc aaa atg ctg ggc atc ttc tgg ttc aat atc aag gaa ata tct ttt	288
Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Ser Phe	
85 90 95	
gga ggc tac ctt tct cag atg ttc ttc atc cat ttc ttc act gtc atg	336
Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val Met	
100 105 110	
gag agc atc gta ttg gtg gcc atg gcc ttt gac cgc tac att gcc att	384
Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile	
115 120 125	
tgc aaa cct ctt tgg tac acc atg atc ctc acc agc aaa atc atc agc	432
Cys Lys Pro Leu Trp Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser	
130 135 140	
ctc att gca ggc att gct gtc ctg agg agc ttg tac atg gtc att cca	480
Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Ile Pro	
145 150 155 160	
ctg gtg ttt ctc ctc tta agg ttg ccc ttc tgt gga cat cgt atc atc	528
Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile	
165 170 175	
cct cat act tac tgt gag cac atg ggc att gcc cgt ctg gcc tgt gcc	576
Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala	
180 185 190	
agc atc aaa gtc aac att atg ttt ggt ctt ggc agt att tct ctc ttg	624
Ser Ile Lys Val Asn Ile Met Phe Gly Leu Gly Ser Ile Ser Leu Leu	
195 200 205	

tta ttg gat gtg ctc ctt att att ctc tcc cat atc agg atc ctc tat 672  
 Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu Tyr  
 210 215 220  
 gct gtc ttc tgc ctg ccc tcc tgg gaa gct cga ctc aaa gct ctc aac 720  
 Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn  
 225 230 235 240  
 acc tgt ggc tct cac att ggt gtt atc tta gcc ttt tct aca cca gca 768  
 Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro Ala  
 245 250 255  
 ttt ttc tct ttc ttt aca cac tgc ttt ggc cat gat att ccc caa tat 816  
 Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln Tyr  
 260 265 270  
 atc cac att ttc ttg gct aat cta tat gtg gtt gtt cct ccc acc ctc 864  
 Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr Leu  
 275 280 285  
 aat cct gta atc tat ggg gtc aga acc aaa cat att agg gag aca gtg 912  
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr Val  
 290 295 300  
 ctg agg att ttc ttc aag aca gat cac taa 942  
 Leu Arg Ile Phe Phe Lys Thr Asp His  
 305 310

<210> 392  
 <211> 313  
 <212> PRT  
 <213> Homo Sapiens

<400> 392

Met Pro Ile Ala Asn Asp Thr Gln Phe His Thr Ser Ser Phe Leu Leu  
1 5 10 15

Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp Ile Gly Phe Pro  
20 25 30

Phe Phe Ser Val Tyr Leu Ile Ala Leu Leu Gly Asn Ala Ala Ile Phe  
35 40 45

Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro Met Tyr Tyr Cys  
50 55 60

Leu Ala Met Leu Asp Ser Ile Asp Leu Ser Leu Ser Thr Ala Thr Ile  
65 70 75 80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Ile Lys Glu Ile Ser Phe  
85 90 95

Gly Gly Tyr Leu Ser Gln Met Phe Phe Ile His Phe Phe Thr Val Met

100	105	110
Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile		
115	120	125
Cys Lys Pro Leu Trp Tyr Thr Met Ile Leu Thr Ser Lys Ile Ile Ser		
130	135	140
Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr Met Val Ile Pro		
145	150	155
Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly His Arg Ile Ile		
165	170	175
Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Ala		
180	185	190
Ser Ile Lys Val Asn Ile Met Phe Gly Leu Gly Ser Ile Ser Leu Leu		
195	200	205
Leu Leu Asp Val Leu Leu Ile Ile Leu Ser His Ile Arg Ile Leu Tyr		
210	215	220
Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn		
225	230	235
Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe Ser Thr Pro Ala		
245	250	255
Phe Phe Ser Phe Phe Thr His Cys Phe Gly His Asp Ile Pro Gln Tyr		
260	265	270
Ile His Ile Phe Leu Ala Asn Leu Tyr Val Val Val Pro Pro Thr Leu		
275	280	285
Asn Pro Val Ile Tyr Gly Val Arg Thr Lys His Ile Arg Glu Thr Val		
290	295	300
Leu Arg Ile Phe Phe Lys Thr Asp His		
305	310	

<210> 393  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>

&lt;221&gt; CDS

&lt;222&gt; (1)..(936)

&lt;223&gt;

&lt;400&gt; 393

atg cct tct atc aat gac acc cac ttc tat ccc ccc ttc ttc ctc ctg	48
Met Pro Ser Ile Asn Asp Thr His Phe Tyr Pro Pro Phe Phe Leu Leu	
1 5 10 15	
cta gga ata cca gga ctg gac act tta cat atc tgg att tct ttc cca	96
Leu Gly Ile Pro Gly Leu Asp Thr Leu His Ile Trp Ile Ser Phe Pro	
20 25 30	
ttc tgt att gtg tac ctg att gcc att gtg ggg aat atg acc att ctc	144
Phe Cys Ile Val Tyr Leu Ile Ala Ile Val Gly Asn Met Thr Ile Leu	
35 40 45	
ttt gtg atc aaa act gaa cat agt cta cac cag ccc atg ttc tac ttc	192
Phe Val Ile Lys Thr Glu His Ser Leu His Gln Pro Met Phe Tyr Phe	
50 55 60	
ctg gcc atg ttg tct atg att gat ctg ggt ctg tcc aca tcc act atc	240
Leu Ala Met Leu Ser Met Ile Asp Leu Gly Leu Ser Thr Ser Thr Ile	
65 70 75 80	
ccc aaa atg cta gga atc ttc tgg ttc aac ctc caa gag atc agc ttt	288
Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gln Glu Ile Ser Phe	
85 90 95	
ggg gga tgc ctt ctt cag atg ttc ttt att cac atg ttt aca ggc atg	336
Gly Gly Cys Leu Leu Gln Met Phe Phe Ile His Met Phe Thr Gly Met	
100 105 110	
gag act gtt ctg ttg gtg gtc atg gct tat gac cgc ttt gtt gcc atc	384
Glu Thr Val Leu Leu Val Val Met Ala Tyr Asp Arg Phe Val Ala Ile	
115 120 125	
tgc aac cct ctc cag tac acc atg atc ctc acc aat aaa acc atc agt	432
Cys Asn Pro Leu Gln Tyr Thr Met Ile Leu Thr Asn Lys Thr Ile Ser	
130 135 140	
atc cta gct tct gtg gtt gtt gga aga aat tta gtt ctt gta acc cca	480
Ile Leu Ala Ser Val Val Val Gly Arg Asn Leu Val Leu Val Thr Pro	
145 150 155 160	
ttt gtg ttt ctc att ctg cgt ctg cca ttc tgt ggg cat aac atc gta	528
Phe Val Phe Leu Ile Leu Arg Leu Pro Phe Cys Gly His Asn Ile Val	
165 170 175	
cct cac aca tac tgt gag cac agg ggt ctg gcc ggg ttg gcc tgt gca	576
Pro His Thr Tyr Cys Glu His Arg Gly Leu Ala Gly Leu Ala Cys Ala	
180 185 190	
ccc att aag atc aac ata atc tat ggg ctc atg gtg att tct tat att	624
Pro Ile Lys Ile Asn Ile Ile Tyr Gly Leu Met Val Ile Ser Tyr Ile	
195 200 205	
att gtg gat gtg atc tta att gcc tct tcc tat gtg ctt atc ctt aga	672
Ile Val Asp Val Ile Leu Ile Ala Ser Ser Tyr Val Leu Ile Leu Arg	
210 215 220	

gct gtt ttt cgc ctt ccc tct caa gat gtc cga cta aag gcc ttc aat 720  
 Ala Val Phe Arg Leu Pro Ser Gln Asp Val Arg Leu Lys Ala Phe Asn  
 225 230 235 240

acc tgt ggt tct cat gtc tgt gtt atg ctg tgc ttt tac aca cca gca 768  
 Thr Cys Gly Ser His Val Cys Val Met Leu Cys Phe Tyr Thr Pro Ala  
 245 250 255

ttt ttt tct ttt atg aca cat cgt ttt ggc caa aac att ccc cac tat 816  
 Phe Phe Ser Phe Met Thr His Arg Phe Gly Gln Asn Ile Pro His Tyr  
 260 265 270

atc cat att ctt ttg gct aac ctg tat gtg gtt gtc cca cct gcc ctt 864  
 Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Ala Leu  
 275 280 285

aac cct gtc att tat gga gtc agg acc aag cag atc cga gag caa att 912  
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Gln Ile  
 290 295 300

gtg aaa ata ttt gta cag aaa gaa taa 939  
 Val Lys Ile Phe Val Gln Lys Glu  
 305 310

<210> 394  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 394

Met Pro Ser Ile Asn Asp Thr His Phe Tyr Pro Pro Phe Phe Leu Leu  
 1 5 10 15

Leu Gly Ile Pro Gly Leu Asp Thr Leu His Ile Trp Ile Ser Phe Pro  
 20 25 30

Phe Cys Ile Val Tyr Leu Ile Ala Ile Val Gly Asn Met Thr Ile Leu  
 35 40 45

Phe Val Ile Lys Thr Glu His Ser Leu His Gln Pro Met Phe Tyr Phe  
 50 55 60

Leu Ala Met Leu Ser Met Ile Asp Leu Gly Leu Ser Thr Ser Thr Ile  
 65 70 75 80

Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Leu Gln Glu Ile Ser Phe  
 85 90 95

Gly Gly Cys Leu Leu Gln Met Phe Phe Ile His Met Phe Thr Gly Met  
 100 105 110



Glu Thr Val Leu Leu Val Val Met Ala Tyr Asp Arg Phe Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Gln Tyr Thr Met Ile Leu Thr Asn Lys Thr Ile Ser  
 130 135 140

Ile Leu Ala Ser Val Val Val Gly Arg Asn Leu Val Leu Val Thr Pro  
 145 150 155 160

Phe Val Phe Leu Ile Leu Arg Leu Pro Phe Cys Gly His Asn Ile Val  
 165 170 175

Pro His Thr Tyr Cys Glu His Arg Gly Leu Ala Gly Leu Ala Cys Ala  
 180 185 190

Pro Ile Lys Ile Asn Ile Ile Tyr Gly Leu Met Val Ile Ser Tyr Ile  
 195 200 205

Ile Val Asp Val Ile Leu Ile Ala Ser Ser Tyr Val Leu Ile Leu Arg  
 210 215 220

Ala Val Phe Arg Leu Pro Ser Gln Asp Val Arg Leu Lys Ala Phe Asn  
 225 230 235 240

Thr Cys Gly Ser His Val Cys Val Met Leu Cys Phe Tyr Thr Pro Ala  
 245 250 255

Phe Phe Ser Phe Met Thr His Arg Phe Gly Gln Asn Ile Pro His Tyr  
 260 265 270

Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Ala Leu  
 275 280 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Gln Ile  
 290 295 300

Val Lys Ile Phe Val Gln Lys Glu  
 305 310

<210> 395  
 <211> 954  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(951)  
 <223>

<400> 395  
 atg gca gga aga atg tct acg tct aat cac acc cag ttc cat cct tct 48  
 Met Ala Gly Arg Met Ser Thr Ser Asn His Thr Gln Phe His Pro Ser  
 1 5 10 15

tca ttc cta ctg ctg ggt atc cca ggg cta gaa gat gtg cac att tgg 96  
 Ser Phe Leu Leu Leu Gly Ile Pro Gly Leu Glu Asp Val His Ile Trp  
 20 25 30

att gga gtc cct ttt ttc ttt gtg tat ctt gtt gca ctc ctg gga aac 144  
 Ile Gly Val Pro Phe Phe Phe Val Tyr Leu Val Ala Leu Leu Gly Asn  
 35 40 45

act gct ctc ttg ttt gtg atc cag act gag cag agt ctc cat gag cct 192  
 Thr Ala Leu Leu Phe Val Ile Gln Thr Glu Gln Ser Leu His Glu Pro  
 50 55 60

atg tac tac ttc ctg gcc atg ttg gat tcc att gac ctg ggc ttg tct 240  
 Met Tyr Tyr Phe Leu Ala Met Leu Asp Ser Ile Asp Leu Gly Leu Ser  
 65 70 75 80

aca gcc acc atc ccc aaa atg ttg ggc atc ttc tgg ttc aat acc aaa 288  
 Thr Ala Thr Ile Pro Lys Met Leu Gly Ile Phe Trp Phe Asn Thr Lys  
 85 90 95

gaa ata tct ttt gga ggc tgc ctt tct cac atg ttc ttc atc cat ttc 336  
 Glu Ile Ser Phe Gly Gly Cys Leu Ser His Met Phe Phe Ile His Phe  
 100 105 110

ttc act gct atg gag agc att gtg ttg gtg gcc atg gcc ttt gac cgc 384  
 Phe Thr Ala Met Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg  
 115 120 125

tac att gcc att tgc aaa cct ctt cgg tac acc atg atc ctc acc agc 432  
 Tyr Ile Ala Ile Cys Lys Pro Leu Arg Tyr Thr Met Ile Leu Thr Ser  
 130 135 140

aaa atc atc agc ctc att gca ggc att gct gtc ctg agg agc ctg tac 480  
 Lys Ile Ile Ser Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr  
 145 150 155 160

atg gtt gtt cca ctg gtg ttt ctc ctt ctg agg ctg ccc ttc tgt ggg 528  
 Met Val Val Pro Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly  
 165 170 175

cat cgt atc atc cct cat act tat tgt gag cac atg ggc att gcc cgt 576  
 His Arg Ile Ile Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg  
 180 185 190

ctg gcc tgt gcc agc atc aaa gtc aac att agg ttt ggc ctt ggc aac 624  
 Leu Ala Cys Ala Ser Ile Lys Val Asn Ile Arg Phe Gly Leu Gly Asn  
 195 200 205

ata tct ctc ttg tta ctg gat gtt atc ctt att att ctc tcc tat gtc 672  
 Ile Ser Leu Leu Leu Leu Asp Val Ile Leu Ile Ile Leu Ser Tyr Val  
 210 215 220

agg atc ctg tat gct gtc ttc tgc ctg ccc tcc tgg gaa gct cga ctc 720  
 Arg Ile Leu Tyr Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu

<400> 396

Phe Thr Ala Met Glu Ser Ile Val Leu Val Ala Met Ala Phe Asp Arg  
115 120 125

Tyr Ile Ala Ile Cys Lys Pro Leu Arg Tyr Thr Met Ile Leu Thr Ser  
 130 135 140

Lys Ile Ile Ser Leu Ile Ala Gly Ile Ala Val Leu Arg Ser Leu Tyr  
 145 150 155 160

Met Val Val Pro Leu Val Phe Leu Leu Leu Arg Leu Pro Phe Cys Gly  
 165 170 175

His Arg Ile Ile Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg  
 180 185 190

Leu Ala Cys Ala Ser Ile Lys Val Asn Ile Arg Phe Gly Leu Gly Asn  
 195 200 205

Ile Ser Leu Leu Leu Leu Asp Val Ile Leu Ile Ile Leu Ser Tyr Val  
 210 215 220

Arg Ile Leu Tyr Ala Val Phe Cys Leu Pro Ser Trp Glu Ala Arg Leu  
 225 230 235 240

Lys Ala Leu Asn Thr Cys Gly Ser His Ile Gly Val Ile Leu Ala Phe  
 245 250 255

Phe Thr Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly His Asn  
 260 265 270

Ile Pro Gln Tyr Ile His Ile Ile Leu Ala Asn Leu Tyr Val Val Val  
 275 280 285

Pro Pro Ala Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile  
 290 295 300

Arg Glu Arg Val Leu Arg Ile Phe Leu Lys Thr Asn His  
 305 310 315

<210> 397  
 <211> 975  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (972)  
 <223>

<400> 397

atg cct cta ttt aat tca tta tgc tgg ttt cca aca att cat gtg act	48
Met Pro Leu Phe Asn Ser Leu Cys Trp Phe Pro Thr Ile His Val Thr	
1 5 10 15	
cct cca tct ttt att ctt aat gga ata cct ggt ctg gaa aga gta cat	96
Pro Pro Ser Phe Ile Leu Asn Gly Ile Pro Gly Leu Glu Arg Val His	
20 25 30	
gta tgg atc tcc ctc cca ctc tgc aca atg tac atc atc ttc ctt gtg	144
Val Trp Ile Ser Leu Pro Leu Cys Thr Met Tyr Ile Ile Phe Leu Val	
35 40 45	
ggg aat ctt ggt ctt gtg tac ctc att tat tat gag gag tcc tta cat	192
Gly Asn Leu Gly Leu Val Tyr Leu Ile Tyr Tyr Glu Glu Ser Leu His	
50 55 60	
cat ccg atg tat ttt ttt ttt ggc cat gct ctc tcc ctc att gac ctc	240
His Pro Met Tyr Phe Phe Phe Gly His Ala Leu Ser Leu Ile Asp Leu	
65 70 75 80	
ctt acc tgc acc acc act cta ccc aat gca ctc tgc atc ttc tgg ttc	288
Leu Thr Cys Thr Thr Thr Leu Pro Asn Ala Leu Cys Ile Phe Trp Phe	
85 90 95	
agt ctc aaa gaa att aac ttc aat gct tgc ttg gcc cag atg ttc ttt	336
Ser Leu Lys Glu Ile Asn Phe Asn Ala Cys Leu Ala Gln Met Phe Phe	
100 105 110	
gtt cat ggg ttc aca ggt gtg gag tct ggg gtg ctc atg ctc atg gct	384
Val His Gly Phe Thr Gly Val Glu Ser Gly Val Leu Met Leu Met Ala	
115 120 125	
cta gac cgc tat gta gcc att tgc tac cct ttg cgt tat gct acc aca	432
Leu Asp Arg Tyr Val Ala Ile Cys Tyr Pro Leu Arg Tyr Ala Thr Thr	
130 135 140	
ctc acc aac cct atc att gcc aag gct gag ctt gcc acc ttc ctg agg	480
Leu Thr Asn Pro Ile Ile Ala Lys Ala Glu Leu Ala Thr Phe Leu Arg	
145 150 155 160	
ggt gta ttg ctg atg att cct ttc cca ttc ttg gtt aag cgt ttg cct	528
Gly Val Leu Leu Met Ile Pro Phe Pro Phe Leu Val Lys Arg Leu Pro	
165 170 175	
ttc tgc caa agc aat att atc tcc cat acg tac tgc gac cac atg tct	576
Phe Cys Gln Ser Asn Ile Ile Ser His Thr Tyr Cys Asp His Met Ser	
180 185 190	
gta gta aag cta tct tgt gcc agc atc aag gtc aat gta atc tat ggt	624
Val Val Lys Leu Ser Cys Ala Ser Ile Lys Val Asn Val Ile Tyr Gly	
195 200 205	
cta atg gtt gct ctc ctg att gga gtg ttt gac att tgt tgt ata tct	672
Leu Met Val Ala Leu Leu Ile Gly Val Phe Asp Ile Cys Cys Ile Ser	
210 215 220	
ttg tct tac act ttg atc ctc aag gca gcg atc agc ctc tct tca tca	720
Leu Ser Tyr Thr Leu Ile Leu Lys Ala Ala Ile Ser Leu Ser Ser Ser	
225 230 235 240	
gat gct cgg cag aag gct ttc agc acc tgc act gcc cat ata tct gcc	768

Asp Ala Arg Gln Lys Ala Phe Ser Thr Cys Thr Ala His Ile Ser Ala  
 245 250 255  
 atc atc atc acc tat gtt cca gca ttc ttc act ttc ttt gcc cac cgt 816  
 ile ile ile thr tyr val pro ala phe phe thr phe phe ala his arg  
 260 265 270  
 ttt ggg gga cac aca att ccc cct tct ctt cac atc att gtg gct aat 864  
 phe gly gly his thr ile pro pro ser leu his ile ile val ala asn  
 275 280 285  
 ctt tat ctt ctt ctt ccc cca act cta aac cct att gtt tat gga gta 912  
 leu tyr leu leu leu pro thr leu asn pro ile val tyr gly val  
 290 295 300  
 aag aca aaa cag ata cgc aag agt gtc ata aag ttc ttc cag ggt gat 960  
 lys thr lys gln ile arg lys ser val ile lys phe phe gln gly asp  
 305 310 315 320  
 aag ggt gca ggt tga 975  
 lys gly ala gly

<210> 398  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 398

Met Pro Leu Phe Asn Ser Leu Cys Trp Phe Pro Thr Ile His Val Thr  
 1 5 10 15

Pro Pro Ser Phe Ile Leu Asn Gly Ile Pro Gly Leu Glu Arg Val His  
 20 25 30

Val Trp Ile Ser Leu Pro Leu Cys Thr Met Tyr Ile Ile Phe Leu Val  
 35 40 45

Gly Asn Leu Gly Leu Val Tyr Leu Ile Tyr Tyr Glu Glu Ser Leu His  
 50 55 60

His Pro Met Tyr Phe Phe Phe Gly His Ala Leu Ser Leu Ile Asp Leu  
 65 70 75 80

Leu Thr Cys Thr Thr Thr Leu Pro Asn Ala Leu Cys Ile Phe Trp Phe  
 85 90 95

Ser Leu Lys Glu Ile Asn Phe Asn Ala Cys Leu Ala Gln Met Phe Phe  
 100 105 110

Val His Gly Phe Thr Gly Val Glu Ser Gly Val Leu Met Leu Met Ala  
 115 120 125

Leu Asp Arg Tyr Val Ala Ile Cys Tyr Pro Leu Arg Tyr Ala Thr Thr  
 130 135 140

Leu Thr Asn Pro Ile Ile Ala Lys Ala Glu Leu Ala Thr Phe Leu Arg  
 145 150 155 160

Gly Val Leu Leu Met Ile Pro Phe Pro Phe Leu Val Lys Arg Leu Pro  
 165 170 175

Phe Cys Gln Ser Asn Ile Ile Ser His Thr Tyr Cys Asp His Met Ser  
 180 185 190

Val Val Lys Leu Ser Cys Ala Ser Ile Lys Val Asn Val Ile Tyr Gly  
 195 200 205

Leu Met Val Ala Leu Leu Ile Gly Val Phe Asp Ile Cys Cys Ile Ser  
 210 215 220

Leu Ser Tyr Thr Leu Ile Leu Lys Ala Ala Ile Ser Leu Ser Ser Ser  
 225 230 235 240

Asp Ala Arg Gln Lys Ala Phe Ser Thr Cys Thr Ala His Ile Ser Ala  
 245 250 255

Ile Ile Ile Thr Tyr Val Pro Ala Phe Phe Thr Phe Phe Ala His Arg  
 260 265 270

Phe Gly Gly His Thr Ile Pro Pro Ser Leu His Ile Ile Val Ala Asn  
 275 280 285

Leu Tyr Leu Leu Leu Pro Pro Thr Leu Asn Pro Ile Val Tyr Gly Val  
 290 295 300

Lys Thr Lys Gln Ile Arg Lys Ser Val Ile Lys Phe Phe Gln Gly Asp  
 305 310 315 320

Lys Gly Ala Gly

<210> 399  
 <211> 972  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS

&lt;222&gt; (1) .. (969)

&lt;223&gt;

&lt;400&gt; 399

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Met Ser His Thr Asn Val Thr Ile Phe His Pro Ala Val Phe Val Leu	
1 5 10 15	
cct ggc atc cct ggg ttg gag gct tat cac att tgg ctg tca ata cct	96
Pro Gly Ile Pro Gly Leu Glu Ala Tyr His Ile Trp Leu Ser Ile Pro	
20 25 30	
ctt tgc ctc att tac atc act gca gtc ctg gga aac agc atc ctg ata	144
Leu Cys Leu Ile Tyr Ile Thr Ala Val Leu Gly Asn Ser Ile Leu Ile	
35 40 45	
gtg gtt att gtc atg gaa cgt aac ctt cat gtg ccc atg tat ttc ttc	192
Val Val Ile Val Met Glu Arg Asn Leu His Val Pro Met Tyr Phe Phe	
50 55 60	
ctc tca atg ctg gcc gtc atg gac atc ctg ctg tct acc acc act gtg	240
Leu Ser Met Leu Ala Val Met Asp Ile Leu Leu Ser Thr Thr Thr Val	
65 70 75 80	
ccc aag gcc cta gcc atc ttt tgg ctt caa gca cat aac att gct ttt	288
Pro Lys Ala Leu Ala Ile Phe Trp Leu Gln Ala His Asn Ile Ala Phe	
85 90 95	
gat gcc tgt gtc acc caa ggc ttc ttt gtc cat atg atg ttt gtg ggg	336
Asp Ala Cys Val Thr Gln Gly Phe Phe Val His Met Met Phe Val Gly	
100 105 110	
gag tca gct atc ctg tta gcc atg gcc ttt gat cgc ttt gtg gcc att	384
Glu Ser Ala Ile Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile	
115 120 125	
tgt gcc cca ctg aga tat aca aca gtg cta aca tgg cct gtt gtg ggg	432
Cys Ala Pro Leu Arg Tyr Thr Thr Val Leu Thr Trp Pro Val Val Gly	
130 135 140	
agg att gct ctg gcc gtc atc acc cga agc ttc tgc atc atc ttc cca	480
Arg Ile Ala Leu Ala Val Ile Thr Arg Ser Phe Cys Ile Ile Phe Pro	
145 150 155 160	
gtc ata ttc ttg ctg aag cgg ctg ccc ttc tgc cta acc aac att gtt	528
Val Ile Phe Leu Leu Lys Arg Leu Pro Phe Cys Leu Thr Asn Ile Val	
165 170 175	
cct cac tcc tac tgt gag cat att gga gtg gct cgt tta gcc tgt gct	576
Pro His Ser Tyr Cys Glu His Ile Gly Val Ala Arg Leu Ala Cys Ala	
180 185 190	
gac atc act gtt aac att tgg tat ggc ttc tca gtg ccc att gtc atg	624
Asp Ile Thr Val Asn Ile Trp Tyr Gly Phe Ser Val Pro Ile Val Met	
195 200 205	
gtc atc ttg gat gtt atc ctc atc gct gtg tct tac tca ctg atc ctc	672
Val Ile Leu Asp Val Ile Leu Ile Ala Val Ser Tyr Ser Leu Ile Leu	
210 215 220	



cga gca gtg ttt cgt ttg ccc tcc cag gat gct cgg cac aag gcc ctc 720  
 Arg Ala Val Phe Arg Leu Pro Ser Gln Asp Ala Arg His Lys Ala Leu  
 225 230 235 240  
 agc act tgt ggc tcc cac ctc tgt gtc atc ctt atg ttt tat gtt cca 768  
 Ser Thr Cys Gly Ser His Leu Cys Val Ile Leu Met Phe Tyr Val Pro  
 245 250 255  
 tcc ttc ttt acc tta ttg acc cat cat ttt ggg cgt aat att cct caa 816  
 Ser Phe Phe Thr Leu Leu Thr His His Phe Gly Arg Asn Ile Pro Gln  
 260 265 270  
 cat gtc cat atc ttg ctg gcc aat ctt tat gtg gca gtg cca cca atg 864  
 His Val His Ile Leu Leu Ala Asn Leu Tyr Val Ala Val Pro Pro Met  
 275 280 285  
 ctg aac ccc att gtc tat ggt gtg aag act aag cag ata cgt gag ggt 912  
 Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gly  
 290 295 300  
 gta gcc cac cgg ttc ttt gac atc aag act tgg tgc tgt acc tcc cct 960  
 Val Ala His Arg Phe Phe Asp Ile Lys Thr Trp Cys Cys Thr Ser Pro  
 305 310 315 320  
 ctg ggc tca tga 972  
 Leu Gly Ser

<210> 400  
 <211> 323  
 <212> PRT  
 <213> Homo Sapiens

<400> 400

Met Ser His Thr Asn Val Thr Ile Phe His Pro Ala Val Phe Val Leu  
 1 5 10 15

Pro Gly Ile Pro Gly Leu Glu Ala Tyr His Ile Trp Leu Ser Ile Pro  
 20 25 30

Leu Cys Leu Ile Tyr Ile Thr Ala Val Leu Gly Asn Ser Ile Leu Ile  
 35 40 45

Val Val Ile Val Met Glu Arg Asn Leu His Val Pro Met Tyr Phe Phe  
 50 55 60

Leu Ser Met Leu Ala Val Met Asp Ile Leu Leu Ser Thr Thr Thr Val  
 65 70 75 80

Pro Lys Ala Leu Ala Ile Phe Trp Leu Gln Ala His Asn Ile Ala Phe  
 85 90 95

Asp Ala Cys Val Thr Gln Gly Phe Phe Val His Met Met Phe Val Gly

100	105	110
Glu Ser Ala Ile Leu Leu Ala Met	Ala Phe Asp Arg Phe Val Ala Ile	
115	120	125
Cys Ala Pro Leu Arg Tyr Thr Thr Val Leu Thr Trp Pro Val Val Gly		
130	135	140
Arg Ile Ala Leu Ala Val Ile Thr Arg Ser Phe Cys Ile Ile Phe Pro		
145	150	155 160
Val Ile Phe Leu Leu Lys Arg Leu Pro Phe Cys Leu Thr Asn Ile Val		
	165	170 175
Pro His Ser Tyr Cys Glu His Ile Gly Val Ala Arg Leu Ala Cys Ala		
	180	185 190
Asp Ile Thr Val Asn Ile Trp Tyr Gly Phe Ser Val Pro Ile Val Met		
	195	200 205
Val Ile Leu Asp Val Ile Leu Ile Ala Val Ser Tyr Ser Leu Ile Leu		
	210	215 220
Arg Ala Val Phe Arg Leu Pro Ser Gln Asp Ala Arg His Lys Ala Leu		
	225	230 235 240
Ser Thr Cys Gly Ser His Leu Cys Val Ile Leu Met Phe Tyr Val Pro		
	245	250 255
Ser Phe Phe Thr Leu Leu Thr His His Phe Gly Arg Asn Ile Pro Gln		
	260	265 270
His Val His Ile Leu Leu Ala Asn Leu Tyr Val Ala Val Pro Pro Met		
	275	280 285
Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Glu Gly		
	290	295 300
Val Ala His Arg Phe Phe Asp Ile Lys Thr Trp Cys Cys Thr Ser Pro		
	305	310 315 320
Leu Gly Ser		

&lt;210&gt; 401

&lt;211&gt; 963

<212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (963)  
 <223>

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<400> 401
atg gca gaa act cta caa ctc aat tcc acc ttc cta cac cca aac ttc      48
Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe
1          5          10          15

ttc ata ctg act ggc ttt cca ggg cta gga agt gcc cag act tgg ctg      96
Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu
          20          25          30

aca ctg gtc ttt ggg ccc att tat ctg ctg gcc ctg ctg ggc aat gga      144
Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly
          35          40          45

gca ctg ccg gca gtg gtg tgg ata gac tcc aca ctg cac cag ccc atg      192
Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met
          50          55          60

ttt cta ctg ttg gcc atc ctg gca gcc aca gac ctg ggc tta gcc aca      240
Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr
65          70          75          80

tct ata gcc cca ggg ttg ctg gct gtg ctg tgg ctt ggg ccc cga tct      288
Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser
          85          90          95

gtg cca tat gct gtg tgc ctg gtc cag atg ttc ttt gta cat gca ctg      336
Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu
          100          105          110

act gcc atg gaa tca ggt gtg ctt ttg gcc atg gcc tgt gat cgt gct      384
Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala
          115          120          125

gcg gca ata ggg cgt cca ctg cac tac cct gtc ctg gtc acc aaa gcc      432
Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala
          130          135          140

tgt gtg ggt tat gca gcc ttg gcc ctg gca ctg aaa gct gtg gct att      480
Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile
145          150          155          160

gtt gta cct ttc cca ctg ctg gtg gca aag ttt gag cac ttc caa gcc      528
Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala
          165          170          175

aag acc ata ggc cat acc tat tgt gca cac atg gca gtg gta gaa ctg      576
Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu
          180          185          190

gtg gtg ggt aac aca cag gcc acc aac tta tat ggt ctg gca ctt tca      624
Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser
          195          200          205

```

ctg gcc atc tca ggt atg gat att ctg ggt atc act ggc tcc tat gga 672  
 Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly  
 210 215 220  
 ctc att gcc cat gct gtg ctg cag cta cct acc cgg gag gcc cat gcc 720  
 Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala  
 225 230 235 240  
 aag gcc ttt ggt aca tgt agt tct cac atc tgt gtc att ctg gcc ttc 768  
 Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe  
 245 250 255  
 tac ata cct ggt ctc ttc tcc tac ctc aca cac cgc ttt ggt cat cac 816  
 Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Thr His Arg Phe Gly His His  
 260 265 270  
 act gtc cca aag cct gtg cac atc ctt ctc tcc aac atc tac ttg ctg 864  
 Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu  
 275 280 285  
 ctg cca cct gcc ctc aac ccc ctc atc tat ggg gcc cgc acc aag cag 912  
 Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln  
 290 295 300  
 atc aga gac cga ctc ctg gaa acc ttc aca ttc aga aaa agc ccg ttg 960  
 Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu  
 305 310 315 320  
 taa 963

<210> 402  
 <211> 320  
 <212> PRT  
 <213> Homo Sapiens

<400> 402

Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe  
1 5 10 15

Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu  
20 25 30

Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly  
35 40 45

Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met  
50 55 60

Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr  
65 70 75 80

Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser  
85 90 95

Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu  
 100 105 110

Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala  
 115 120 125

Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala  
 130 135 140

Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile  
 145 150 155 160

Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala  
 165 170 175

Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu  
 180 185 190

Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser  
 195 200 205

Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly  
 210 215 220

Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala  
 225 230 235 240

Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe  
 245 250 255

Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Thr His Arg Phe Gly His His  
 260 265 270

Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu  
 275 280 285

Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln  
 290 295 300

Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu  
 305 310 315 320

<210> 403  
 <211> 960  
 <212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(957)

&lt;223&gt;

&lt;400&gt; 403

atg	gat	acc	tcc	acc	agt	gtt	acc	tat	gac	tcc	agc	ctc	cag	att	tcc	48
Met	Asp	Thr	Ser	Thr	Ser	Val	Thr	Tyr	Asp	Ser	Ser	Leu	Gln	Ile	Ser	
1				5					10					15		

cag	ttc	atc	ctg	atg	gga	tta	cca	ggc	att	cat	gag	tgg	cag	cac	tgg	96
Gln	Phe	Ile	Leu	Met	Gly	Leu	Pro	Gly	Ile	His	Glu	Trp	Gln	His	Trp	
			20					25					30			

ctc	tcc	ctg	ccc	ctg	act	ctg	ctc	tac	ctc	tta	gct	ctt	ggg	gcc	aac	144
Leu	Ser	Leu	Pro	Leu	Thr	Leu	Leu	Tyr	Leu	Leu	Ala	Leu	Gly	Ala	Asn	
		35					40					45				

ctc	ctc	atc	ata	atc	acc	att	caa	cat	gag	acc	gtg	cta	cat	gaa	ccc	192
Leu	Leu	Ile	Ile	Ile	Thr	Ile	Gln	His	Glu	Thr	Val	Leu	His	Glu	Pro	
	50					55					60					

atg	tac	cat	ttg	ctg	ggc	ata	tta	gca	gtg	gtg	gac	att	ggc	ctg	gcc	240
Met	Tyr	His	Leu	Leu	Gly	Ile	Leu	Ala	Val	Val	Asp	Ile	Gly	Leu	Ala	
65					70				75					80		

acc	acc	atc	atg	ccc	aag	atc	ctg	ggc	atc	ttc	tgg	ttt	gat	gcc	aag	288
Thr	Thr	Ile	Met	Pro	Lys	Ile	Leu	Ala	Ile	Phe	Trp	Phe	Asp	Ala	Lys	
				85					90					95		

gcc	att	agc	ctc	ccc	atg	tgt	ttt	gct	cag	atc	tat	gcc	atc	cac	tgc	336
Ala	Ile	Ser	Leu	Pro	Met	Cys	Phe	Ala	Gln	Ile	Tyr	Ala	Ile	His	Cys	
			100					105					110			

ttc	ttc	tgc	ata	gag	tca	ggc	atc	ttt	ctc	tgc	atg	gca	gta	gac	aga	384
Phe	Phe	Cys	Ile	Glu	Ser	Gly	Ile	Phe	Leu	Cys	Met	Ala	Val	Asp	Arg	
		115					120					125				

tac	ata	gcc	atc	tgt	cgc	cct	ctt	cag	tac	ccc	tcc	ata	gtc	act	aaa	432
Tyr	Ile	Ala	Ile	Cys	Arg	Pro	Leu	Gln	Tyr	Pro	Ser	Ile	Val	Thr	Lys	
	130					135					140					

gct	ttt	gtc	ttc	aaa	gcc	aca	ggg	ttc	atc	atg	ctc	agg	aat	ggc	ctg	480
Ala	Phe	Val	Phe	Lys	Ala	Thr	Gly	Phe	Ile	Met	Leu	Arg	Asn	Gly	Leu	
145					150				155						160	

ttg	acc	atc	cca	gtg	cct	ata	ctg	gct	ggc	cag	aga	cac	tac	tgt	tcc	528
Leu	Thr	Ile	Pro	Val	Pro	Ile	Leu	Ala	Ala	Gln	Arg	His	Tyr	Cys	Ser	
				165				170						175		

agg	aat	gaa	atc	gag	cac	tgc	ctc	tgc	tct	aac	ttg	ggg	gtt	atc	agc	576
Arg	Asn	Glu	Ile	Glu	His	Cys	Leu	Cys	Ser	Asn	Leu	Gly	Val	Ile	Ser	
			180					185					190			

ctg	gct	tgt	gat	gac	atc	act	gtg	aac	aaa	ttt	tac	caa	ctg	atg	cta	624
Leu	Ala	Cys	Asp	Asp	Ile	Thr	Val	Asn	Lys	Phe	Tyr	Gln	Leu	Met	Leu	
		195					200					205				

gca tgg gtc ttg gtt ggg agt gat atg gct ctg gta ttt tct tcc tat 672  
 Ala Trp Val Leu Val Gly Ser Asp Met Ala Leu Val Phe Ser Ser Tyr  
 210 215 220  
 gct gta atc ctt cac tct gtg ctg agg ctg aac tca gca gaa gca atg 720  
 Ala Val Ile Leu His Ser Val Leu Arg Leu Asn Ser Ala Glu Ala Met  
 225 230 235 240  
 tcc aag gct ctg agc act tgt agc tcc cac ctc atc ctc atc ctc ttc 768  
 Ser Lys Ala Leu Ser Thr Cys Ser Ser His Leu Ile Leu Ile Leu Phe  
 245 250 255  
 cac aca ggt atc att gtg ctg tct gtc aca cac ctt gca gag aaa aag 816  
 His Thr Gly Ile Ile Val Leu Ser Val Thr His Leu Ala Glu Lys Lys  
 260 265 270  
 att ccc ctt att cct gtg ttc ctt aat gtg ctg cac aat gtc atc ccc 864  
 Ile Pro Leu Ile Pro Val Phe Leu Asn Val Leu His Asn Val Ile Pro  
 275 280 285  
 cct gca ctc aac ccc ctg gcc tgt gca ctc agg atg cac aaa ctc aga 912  
 Pro Ala Leu Asn Pro Leu Ala Cys Ala Leu Arg Met His Lys Leu Arg  
 290 295 300  
 ctg ggc ttt cag aga ctg ctt gga ctg ggt cag gac gtg tcc aag taa 960  
 Leu Gly Phe Gln Arg Leu Leu Gly Leu Gly Gln Asp Val Ser Lys  
 305 310 315

<210> 404  
 <211> 319  
 <212> PRT  
 <213> Homo Sapiens

<400> 404

Met Asp Thr Ser Thr Ser Val Thr Tyr Asp Ser Ser Leu Gln Ile Ser  
1 5 10 15

Gln Phe Ile Leu Met Gly Leu Pro Gly Ile His Glu Trp Gln His Trp  
20 25 30

Leu Ser Leu Pro Leu Thr Leu Leu Tyr Leu Leu Ala Leu Gly Ala Asn  
35 40 45

Leu Leu Ile Ile Ile Thr Ile Gln His Glu Thr Val Leu His Glu Pro  
50 55 60

Met Tyr His Leu Leu Gly Ile Leu Ala Val Val Asp Ile Gly Leu Ala  
65 70 75 80

Thr Thr Ile Met Pro Lys Ile Leu Ala Ile Phe Trp Phe Asp Ala Lys  
85 90 95

Ala Ile Ser Leu Pro Met Cys Phe Ala Gln Ile Tyr Ala Ile His Cys

100	105	110
Phe Phe Cys Ile Glu Ser Gly Ile Phe Leu Cys Met Ala Val Asp Arg		
115	120	125
Tyr Ile Ala Ile Cys Arg Pro Leu Gln Tyr Pro Ser Ile Val Thr Lys		
130	135	140
Ala Phe Val Phe Lys Ala Thr Gly Phe Ile Met Leu Arg Asn Gly Leu		
145	150	155
Leu Thr Ile Pro Val Pro Ile Leu Ala Ala Gln Arg His Tyr Cys Ser		
165	170	175
Arg Asn Glu Ile Glu His Cys Leu Cys Ser Asn Leu Gly Val Ile Ser		
180	185	190
Leu Ala Cys Asp Asp Ile Thr Val Asn Lys Phe Tyr Gln Leu Met Leu		
195	200	205
Ala Trp Val Leu Val Gly Ser Asp Met Ala Leu Val Phe Ser Ser Tyr		
210	215	220
Ala Val Ile Leu His Ser Val Leu Arg Leu Asn Ser Ala Glu Ala Met		
225	230	235
Ser Lys Ala Leu Ser Thr Cys Ser Ser His Leu Ile Leu Ile Leu Phe		
245	250	255
His Thr Gly Ile Ile Val Leu Ser Val Thr His Leu Ala Glu Lys Lys		
260	265	270
Ile Pro Leu Ile Pro Val Phe Leu Asn Val Leu His Asn Val Ile Pro		
275	280	285
Pro Ala Leu Asn Pro Leu Ala Cys Ala Leu Arg Met His Lys Leu Arg		
290	295	300
Leu Gly Phe Gln Arg Leu Leu Gly Leu Gly Gln Asp Val Ser Lys		
305	310	315

<210> 405  
 <211> 963  
 <212> DNA  
 <213> Homo Sapiens

<220>



&lt;221&gt; CDS

&lt;222&gt; (1)..(963)

&lt;223&gt;

&lt;400&gt; 405

atg gca gaa act cta caa ctc aat tcc acc ttc cta cac cca aac ttc	48
Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe	
1 5 10 15	
ttc ata ctg act ggc ttt cca ggg cta gga agt gcc cag act tgg ctg	96
Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu	
20 25 30	
aca ctg gtc ttt ggg ccc att tat ctg ctg gcc ctg ctg ggc aat gga	144
Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly	
35 40 45	
gca ctg ccg gca gtg gtg tgg ata gac tcc aca ctg cac cag ccc atg	192
Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met	
50 55 60	
ttt cta ctg ttg gcc atc ctg gca gcc aca gac ctg ggc tta gcc aca	240
Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr	
65 70 75 80	
tct ata gcc cca ggg ttg ctg gct gtg ctg tgg ctt ggg ccc cga tct	288
Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser	
85 90 95	
gtg cca tat gct gtg tgc ctg gtc cag atg ttc ttt gta cat gca ctg	336
Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu	
100 105 110	
act gcc atg gaa tca ggt gtg ctt ttg gcc atg gcc tgt gat cgt gct	384
Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala	
115 120 125	
gcg gca ata ggg cgt cca ctg cac tac cct gtc ctg gtc acc aaa gcc	432
Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala	
130 135 140	
tgt gtg ggt tat gca gcc ttg gcc ctg gca ctg aaa gct gtg gct att	480
Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile	
145 150 155 160	
gtt gta cct ttc cca ctg ctg gtg gca aag ttt gag cac ttc caa gcc	528
Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala	
165 170 175	
aag acc ata ggc cat acc tat tgt gca cac atg gca gtg gta gaa ctg	576
Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu	
180 185 190	
gtg gtg ggt aac aca cag gcc acc aac tta tat ggt ctg gca ctt tca	624
Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser	
195 200 205	
ctg gcc atc tca ggt atg gat att ctg ggt atc act ggc tcc tat gga	672
Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly	
210 215 220	

ctc att gcc cat gct gtg ctg cag cta cct acc cgg gag gcc cat gcc 720  
 Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala  
 225 230 235 240  
 aag gcc ttt ggt aca tgt agt tct cac atc tgt gtc att ctg gcc ttc 768  
 Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe  
 245 250 255  
 tac ata cct ggt ctc ttc tcc tac ctc gca cac cgc ttt ggt cat cac 816  
 Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Ala His Arg Phe Gly His His  
 260 265 270  
 act gtc cca aag cct gtg cac atc ctt ctc tcc aac atc tac ttg ctg 864  
 Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu  
 275 280 285  
 ctg cca cct gcc ctc aac ccc ctc atc tat ggg gcc cgc acc aag cag 912  
 Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln  
 290 295 300  
 atc aga gac cga ctc ctg gaa acc ttc aca ttc aga aaa agc ccg ttg 960  
 Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu  
 305 310 315 320  
 taa 963

<210> 406  
 <211> 320  
 <212> PRT  
 <213> Homo Sapiens

<400> 406

Met Ala Glu Thr Leu Gln Leu Asn Ser Thr Phe Leu His Pro Asn Phe  
1 5 10 15

Phe Ile Leu Thr Gly Phe Pro Gly Leu Gly Ser Ala Gln Thr Trp Leu  
20 25 30

Thr Leu Val Phe Gly Pro Ile Tyr Leu Leu Ala Leu Leu Gly Asn Gly  
35 40 45

Ala Leu Pro Ala Val Val Trp Ile Asp Ser Thr Leu His Gln Pro Met  
50 55 60

Phe Leu Leu Leu Ala Ile Leu Ala Ala Thr Asp Leu Gly Leu Ala Thr  
65 70 75 80

Ser Ile Ala Pro Gly Leu Leu Ala Val Leu Trp Leu Gly Pro Arg Ser  
85 90 95

Val Pro Tyr Ala Val Cys Leu Val Gln Met Phe Phe Val His Ala Leu  
100 105 110

Thr Ala Met Glu Ser Gly Val Leu Leu Ala Met Ala Cys Asp Arg Ala  
 115 120 125

Ala Ala Ile Gly Arg Pro Leu His Tyr Pro Val Leu Val Thr Lys Ala  
 130 135 140

Cys Val Gly Tyr Ala Ala Leu Ala Leu Ala Leu Lys Ala Val Ala Ile  
 145 150 155 160

Val Val Pro Phe Pro Leu Leu Val Ala Lys Phe Glu His Phe Gln Ala  
 165 170 175

Lys Thr Ile Gly His Thr Tyr Cys Ala His Met Ala Val Val Glu Leu  
 180 185 190

Val Val Gly Asn Thr Gln Ala Thr Asn Leu Tyr Gly Leu Ala Leu Ser  
 195 200 205

Leu Ala Ile Ser Gly Met Asp Ile Leu Gly Ile Thr Gly Ser Tyr Gly  
 210 215 220

Leu Ile Ala His Ala Val Leu Gln Leu Pro Thr Arg Glu Ala His Ala  
 225 230 235 240

Lys Ala Phe Gly Thr Cys Ser Ser His Ile Cys Val Ile Leu Ala Phe  
 245 250 255

Tyr Ile Pro Gly Leu Phe Ser Tyr Leu Ala His Arg Phe Gly His His  
 260 265 270

Thr Val Pro Lys Pro Val His Ile Leu Leu Ser Asn Ile Tyr Leu Leu  
 275 280 285

Leu Pro Pro Ala Leu Asn Pro Leu Ile Tyr Gly Ala Arg Thr Lys Gln  
 290 295 300

Ile Arg Asp Arg Leu Leu Glu Thr Phe Thr Phe Arg Lys Ser Pro Leu  
 305 310 315 320

<210> 407  
 <211> 1008  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS

&lt;222&gt; (1) .. (1005)

&lt;223&gt;

&lt;400&gt; 407

atg gca cag gtg agg gcg ctg cat aaa atc atg gcc ctt ttt tct gct	48
Met Ala Gln Val Arg Ala Leu His Lys Ile Met Ala Leu Phe Ser Ala	
1 5 10 15	
aac agc ata ggt gct atg aac aac tct gac act cgc ata gca ggc tgc	96
Asn Ser Ile Gly Ala Met Asn Asn Ser Asp Thr Arg Ile Ala Gly Cys	
20 25 30	
ttc ctc act ggc atc cct ggg ctg gag caa cta cat atc tgg ctg tcc	144
Phe Leu Thr Gly Ile Pro Gly Leu Glu Gln Leu His Ile Trp Leu Ser	
35 40 45	
atc ccc ttc tgc atc atg tac atc gct gcc ctg gaa ggc aat ggc atc	192
Ile Pro Phe Cys Ile Met Tyr Ile Ala Ala Leu Glu Gly Asn Gly Ile	
50 55 60	
cta att tgt gtc atc ctc tcc cag gca atc ctg cat gag ccc atg tac	240
Leu Ile Cys Val Ile Leu Ser Gln Ala Ile Leu His Glu Pro Met Tyr	
65 70 75 80	
ata ttc tta tct atg ctg gcc agt gct gat gtc ttg ctc tct acc acc	288
Ile Phe Leu Ser Met Leu Ala Ser Ala Asp Val Leu Leu Ser Thr Thr	
85 90 95	
acc atg cct aag gcc ctg gcc aat ttg tgg cta ggt tat agc cac att	336
Thr Met Pro Lys Ala Leu Ala Asn Leu Trp Leu Gly Tyr Ser His Ile	
100 105 110	
tcc ttt gat ggc tgc ctc act caa aag ttc ttc att cac ttc ctc ttc	384
Ser Phe Asp Gly Cys Leu Thr Gln Lys Phe Phe Ile His Phe Leu Phe	
115 120 125	
att cac tct gct gtc ctg ctg gcc atg gcc ttt gac cgc tat gtg gcc	432
Ile His Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala	
130 135 140	
atc tgc tcc ccc ctg cga tat gtc aca atc ctc aca agc aag gtc att	480
Ile Cys Ser Pro Leu Arg Tyr Val Thr Ile Leu Thr Ser Lys Val Ile	
145 150 155 160	
ggg aag atc gtc act gcc acc ctg agc cgc agc ttc atc att atg ttt	528
Gly Lys Ile Val Thr Ala Thr Leu Ser Arg Ser Phe Ile Ile Met Phe	
165 170 175	
cca tcc atc ttt ctc ctt gag cac ctg cac tat tgc cag atc aac atc	576
Pro Ser Ile Phe Leu Leu Glu His Leu His Tyr Cys Gln Ile Asn Ile	
180 185 190	
att gca cac aca ttt tgt gag cac atg ggc att gcc cat ctg tcc tgt	624
Ile Ala His Thr Phe Cys Glu His Met Gly Ile Ala His Leu Ser Cys	
195 200 205	
tct gat atc tcc atc aat gtc tgg tat ggg ttg gca gct gct ctt ctc	672
Ser Asp Ile Ser Ile Asn Val Trp Tyr Gly Leu Ala Ala Leu Leu	
210 215 220	

tcc aca ggc ctg gac atc atg ctt att act gtt tcc tac atc cac atc 720  
 Ser Thr Gly Leu Asp Ile Met Leu Ile Thr Val Ser Tyr Ile His Ile  
 225 230 235 240  
 ctc caa gca gtc ttc cgc ctc ctt tct caa gat gcc cgc tcc aag gcc 768  
 Leu Gln Ala Val Phe Arg Leu Leu Ser Gln Asp Ala Arg Ser Lys Ala  
 245 250 255  
 ctg agt acc tgt gga tcc cat atc tgt gtc atc cta ctc ttc tat gtc 816  
 Leu Ser Thr Cys Gly Ser His Ile Cys Val Ile Leu Leu Phe Tyr Val  
 260 265 270  
 cct gcc ctt ttt tct gtc ttt gcc tac agg ttt ggt ggg aga agc atc 864  
 Pro Ala Leu Phe Ser Val Phe Ala Tyr Arg Phe Gly Gly Arg Ser Ile  
 275 280 285  
 cca tgc tat gtc cat att ctc ctg gcc agc ctc tac gtt gtc att cct 912  
 Pro Cys Tyr Val His Ile Leu Leu Ala Ser Leu Tyr Val Val Ile Pro  
 290 295 300  
 cct atg ctc aat ccc gtt att tat gga gtg agg act aag cca ata ctg 960  
 Pro Met Leu Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Pro Ile Leu  
 305 310 315 320  
 gaa ggg gct aag cag atg ttt tca aat ctt gcc aaa gga tct aaa taa 1008  
 Glu Gly Ala Lys Gln Met Phe Ser Asn Leu Ala Lys Gly Ser Lys  
 325 330 335

<210> 408  
 <211> 335  
 <212> PRT  
 <213> Homo Sapiens

<400> 408

Met Ala Gln Val Arg Ala Leu His Lys Ile Met Ala Leu Phe Ser Ala  
1 5 10 15

Asn Ser Ile Gly Ala Met Asn Asn Ser Asp Thr Arg Ile Ala Gly Cys  
20 25 30

Phe Leu Thr Gly Ile Pro Gly Leu Glu Gln Leu His Ile Trp Leu Ser  
35 40 45

Ile Pro Phe Cys Ile Met Tyr Ile Ala Ala Leu Glu Gly Asn Gly Ile  
50 55 60

Leu Ile Cys Val Ile Leu Ser Gln Ala Ile Leu His Glu Pro Met Tyr  
65 70 75 80

Ile Phe Leu Ser Met Leu Ala Ser Ala Asp Val Leu Leu Ser Thr Thr  
85 90 95

Thr Met Pro Lys Ala Leu Ala Asn Leu Trp Leu Gly Tyr Ser His Ile

100					105					110					
Ser	Phe	Asp	Gly	Cys	Leu	Thr	Gln	Lys	Phe	Phe	Ile	His	Phe	Leu	Phe
		115					120					125			
Ile	His	Ser	Ala	Val	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala
	130					135					140				
Ile	Cys	Ser	Pro	Leu	Arg	Tyr	Val	Thr	Ile	Leu	Thr	Ser	Lys	Val	Ile
145					150					155					160
Gly	Lys	Ile	Val	Thr	Ala	Thr	Leu	Ser	Arg	Ser	Phe	Ile	Ile	Met	Phe
				165					170					175	
Pro	Ser	Ile	Phe	Leu	Leu	Glu	His	Leu	His	Tyr	Cys	Gln	Ile	Asn	Ile
			180					185						190	
Ile	Ala	His	Thr	Phe	Cys	Glu	His	Met	Gly	Ile	Ala	His	Leu	Ser	Cys
		195					200					205			
Ser	Asp	Ile	Ser	Ile	Asn	Val	Trp	Tyr	Gly	Leu	Ala	Ala	Ala	Leu	Leu
	210					215					220				
Ser	Thr	Gly	Leu	Asp	Ile	Met	Leu	Ile	Thr	Val	Ser	Tyr	Ile	His	Ile
225					230					235					240
Leu	Gln	Ala	Val	Phe	Arg	Leu	Leu	Ser	Gln	Asp	Ala	Arg	Ser	Lys	Ala
				245					250					255	
Leu	Ser	Thr	Cys	Gly	Ser	His	Ile	Cys	Val	Ile	Leu	Leu	Phe	Tyr	Val
			260					265					270		
Pro	Ala	Leu	Phe	Ser	Val	Phe	Ala	Tyr	Arg	Phe	Gly	Gly	Arg	Ser	Ile
		275					280					285			
Pro	Cys	Tyr	Val	His	Ile	Leu	Leu	Ala	Ser	Leu	Tyr	Val	Val	Ile	Pro
	290					295					300				
Pro	Met	Leu	Asn	Pro	Val	Ile	Tyr	Gly	Val	Arg	Thr	Lys	Pro	Ile	Leu
305					310					315					320
Glu	Gly	Ala	Lys	Gln	Met	Phe	Ser	Asn	Leu	Ala	Lys	Gly	Ser	Lys	
				325					330					335	
<210>	409														
<211>	957														

<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(954)  
<223>

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<400> 409
atg tca gat tcc aac ctc agt gat aac cat ctt cca gac acc ttc ttc      48
Met Ser Asp Ser Asn Leu Ser Asp Asn His Leu Pro Asp Thr Phe Phe
1          5          10          15

tta aca ggg atc cca ggg ctg gag gct gcc cac ttc tgg att gcc atc      96
Leu Thr Gly Ile Pro Gly Leu Glu Ala Ala His Phe Trp Ile Ala Ile
          20          25          30

cct ttc tgt gcc atg tat ctt gta gca ctg gtt gga aat gct gcc ctc      144
Pro Phe Cys Ala Met Tyr Leu Val Ala Leu Val Gly Asn Ala Ala Leu
          35          40          45

atc ctg gtc att gcc atg gac aat gct ctt cat gca cct atg tac ctc      192
Ile Leu Val Ile Ala Met Asp Asn Ala Leu His Ala Pro Met Tyr Leu
          50          55          60

ttc ctc tgc ctt ctc tca ctc aca gac ctg gct ctc agt tct acc act      240
Phe Leu Cys Leu Leu Ser Leu Thr Asp Leu Ala Leu Ser Ser Thr Thr
65          70          75          80

gtg ccc aag atg ctg gcc att ttg tgg ctc cat gct ggt gag att tcc      288
Val Pro Lys Met Leu Ala Ile Leu Trp Leu His Ala Gly Glu Ile Ser
          85          90          95

ttt ggt gga tgc ctg gcc cag atg ttt tgt gtc cat tct atc tat gct      336
Phe Gly Gly Cys Leu Ala Gln Met Phe Cys Val His Ser Ile Tyr Ala
          100          105          110

ctg gag tcc tcg att cta ctt gcc atg gcc ttt gat agg tat gtg gct      384
Leu Glu Ser Ser Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala
          115          120          125

atc tgt aac cca tta agg tat aca acc att ctc aac cat gct gtc ata      432
Ile Cys Asn Pro Leu Arg Tyr Thr Thr Ile Leu Asn His Ala Val Ile
          130          135          140

ggc aga att ggc ttt gtt ggg cta ttc cgt agt gtg gct att gtc tcc      480
Gly Arg Ile Gly Phe Val Gly Leu Phe Arg Ser Val Ala Ile Val Ser
145          150          155          160

ccc ttc atc ttc ttg ctg agg cga ctc ccc tac tgt ggt cac cgt gtc      528
Pro Phe Ile Phe Leu Leu Arg Arg Leu Pro Tyr Cys Gly His Arg Val
          165          170          175

atg aca cac aca tac tgt gag cat atg ggc atc gcc cga ctg gcc tgt      576
Met Thr His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys
          180          185          190

gcc aac atc act gtc aat att gtc tat ggg cta act gtg gct ctg ctg      624
Ala Asn Ile Thr Val Asn Ile Val Tyr Gly Leu Thr Val Ala Leu Leu
          195          200          205

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gcc atg gga ctg gat tcc att ctc att gcc att tcc tat ggc ttt atc 672  
 Ala Met Gly Leu Asp Ser Ile Leu Ile Ala Ile Ser Tyr Gly Phe Ile  
 210 215 220  
 ctc cat gca gtc ttt cac ctt cca tct cat gat gcc cag cac aaa gct 720  
 Leu His Ala Val Phe His Leu Pro Ser His Asp Ala Gln His Lys Ala  
 225 230 235 240  
 ctg agt acc tgt ggc tcc cac att ggc atc atc ctg gtt ttc tac atc 768  
 Leu Ser Thr Cys Gly Ser His Ile Gly Ile Ile Leu Val Phe Tyr Ile  
 245 250 255  
 cct gcc ttc ttc tcc ttc ctc acc cac cgc ttt ggt cac cac gaa gtc 816  
 Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly His His Glu Val  
 260 265 270  
 ccc aag cat gtg cac atc ttt ctg gct aat ctc tat gtg ctg gtg cct 864  
 Pro Lys His Val His Ile Phe Leu Ala Asn Leu Tyr Val Leu Val Pro  
 275 280 285  
 cct gta ctc aat cct att ctc tat gga gct aga acc aag gag att cgg 912  
 Pro Val Leu Asn Pro Ile Leu Tyr Gly Ala Arg Thr Lys Glu Ile Arg  
 290 295 300  
 agt cga ctt cta aaa ctg ctt cac ctg ggg aag act tca ata tga 957  
 Ser Arg Leu Leu Lys Leu Leu His Leu Gly Lys Thr Ser Ile  
 305 310 315

<210> 410  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 410

Met Ser Asp Ser Asn Leu Ser Asp Asn His Leu Pro Asp Thr Phe Phe  
1 5 10 15

Leu Thr Gly Ile Pro Gly Leu Glu Ala Ala His Phe Trp Ile Ala Ile  
20 25 30

Pro Phe Cys Ala Met Tyr Leu Val Ala Leu Val Gly Asn Ala Ala Leu  
35 40 45

Ile Leu Val Ile Ala Met Asp Asn Ala Leu His Ala Pro Met Tyr Leu  
50 55 60

Phe Leu Cys Leu Leu Ser Leu Thr Asp Leu Ala Leu Ser Ser Thr Thr  
65 70 75 80

Val Pro Lys Met Leu Ala Ile Leu Trp Leu His Ala Gly Glu Ile Ser  
85 90 95



Phe Gly Gly Cys Leu Ala Gln Met Phe Cys Val His Ser Ile Tyr Ala  
 100 105 110

Leu Glu Ser Ser Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala  
 115 120 125

Ile Cys Asn Pro Leu Arg Tyr Thr Thr Ile Leu Asn His Ala Val Ile  
 130 135 140

Gly Arg Ile Gly Phe Val Gly Leu Phe Arg Ser Val Ala Ile Val Ser  
 145 150 155 160

Pro Phe Ile Phe Leu Leu Arg Arg Leu Pro Tyr Cys Gly His Arg Val  
 165 170 175

Met Thr His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys  
 180 185 190

Ala Asn Ile Thr Val Asn Ile Val Tyr Gly Leu Thr Val Ala Leu Leu  
 195 200 205

Ala Met Gly Leu Asp Ser Ile Leu Ile Ala Ile Ser Tyr Gly Phe Ile  
 210 215 220

Leu His Ala Val Phe His Leu Pro Ser His Asp Ala Gln His Lys Ala  
 225 230 235 240

Leu Ser Thr Cys Gly Ser His Ile Gly Ile Ile Leu Val Phe Tyr Ile  
 245 250 255

Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly His His Glu Val  
 260 265 270

Pro Lys His Val His Ile Phe Leu Ala Asn Leu Tyr Val Leu Val Pro  
 275 280 285

Pro Val Leu Asn Pro Ile Leu Tyr Gly Ala Arg Thr Lys Glu Ile Arg  
 290 295 300

Ser Arg Leu Leu Lys Leu Leu His Leu Gly Lys Thr Ser Ile  
 305 310 315

<210> 411

<211> 945

<212> DNA

<213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) : . (945)

&lt;223&gt;

&lt;400&gt; 411

atg atc att ttc aac ctg agc agt tac aat cca gga ccc ttc att ctg	48
Met Ile Ile Phe Asn Leu Ser Ser Tyr Asn Pro Gly Pro Phe Ile Leu	
1 5 10 15	
gta ggg atc cca ggc ctg gag caa ttc cat gtg tgg att gga att ccc	96
Val Gly Ile Pro Gly Leu Glu Gln Phe His Val Trp Ile Gly Ile Pro	
20 25 30	
ttc tgt atc atc tac att gta gct gtt gtg gga aac tgc atc ctt ctc	144
Phe Cys Ile Ile Tyr Ile Val Ala Val Val Gly Asn Cys Ile Leu Leu	
35 40 45	
tac ctc att gtg gtg gag cat agt ctt cat gaa ccc atg ttc ttc ttt	192
Tyr Leu Ile Val Val Glu His Ser Leu His Glu Pro Met Phe Phe Phe	
50 55 60	
ctc tcc atg ctg gcc atg act gac ctc atc ttg tcc aca gct ggt gtg	240
Leu Ser Met Leu Ala Met Thr Asp Leu Ile Leu Ser Thr Ala Gly Val	
65 70 75 80	
cct aaa gca ctc agt atc ttt tgg cta ggg gct cgc gaa atc aca ttc	288
Pro Lys Ala Leu Ser Ile Phe Trp Leu Gly Ala Arg Glu Ile Thr Phe	
85 90 95	
cca gga tgc ctt aca caa atg ttc ttc ctt cac tat aac ttt gtc ctg	336
Pro Gly Cys Leu Thr Gln Met Phe Phe Leu His Tyr Asn Phe Val Leu	
100 105 110	
gat tca gcc att ctg atg gcc atg gca ttt gat cac tat gta gct atc	384
Asp Ser Ala Ile Leu Met Ala Met Ala Phe Asp His Tyr Val Ala Ile	
115 120 125	
tgt tct ccc ttg aga tat acc acc atc ttg act ccc aag acc atc atc	432
Cys Ser Pro Leu Arg Tyr Thr Thr Ile Leu Thr Pro Lys Thr Ile Ile	
130 135 140	
aag agt gct atg ggc atc tcc ttt cga agc ttc tgc atc atc ctg cca	480
Lys Ser Ala Met Gly Ile Ser Phe Arg Ser Phe Cys Ile Ile Leu Pro	
145 150 155 160	
gat gta ttc ttg ctg aca tgc ctg cct ttc tgc agg aca cgc atc ata	528
Asp Val Phe Leu Leu Thr Cys Leu Pro Phe Cys Arg Thr Arg Ile Ile	
165 170 175	
ccc cac aca tac tgt gag cat ata ggt gtt gcc cag ctc gcc tgt gct	576
Pro His Thr Tyr Cys Glu His Ile Gly Val Ala Gln Leu Ala Cys Ala	
180 185 190	
gat atc tcc atc aac ttc tgg tat ggc ttt tgt gtt ccc atc atg acg	624
Asp Ile Ser Ile Asn Phe Trp Tyr Gly Phe Cys Val Pro Ile Met Thr	
195 200 205	
gtc atc tca gat gtg att ctc att gct gtt tcc tac gca cac atc ctc	672
Val Ile Ser Asp Val Ile Leu Ile Ala Val Ser Tyr Ala His Ile Leu	

210 215 220  
 tgt gct gtc ttt ggc ctt ccc tcc caa gat gcc tgc cag aaa gcc ctc 720  
 Cys Ala Val Phe Gly Leu Pro Ser Gln Asp Ala Cys Gln Lys Ala Leu  
 225 230 235 240  
 ggc act tgt ggt tct cat gtc tgt gtc atc ctc atg ttt tat aca cct 768  
 Gly Thr Cys Gly Ser His Val Cys Val Ile Leu Met Phe Tyr Thr Pro  
 245 250 255  
 gcc ttt ttc tcc atc ctc gcc cat cgc ttt gga cac aat gtc tct cgc 816  
 Ala Phe Phe Ser Ile Leu Ala His Arg Phe Gly His Asn Val Ser Arg  
 260 265 270  
 acc ttc cac atc atg ttt gcc aat ctc tac att gtt atc cca cct gca 864  
 Thr Phe His Ile Met Phe Ala Asn Leu Tyr Ile Val Ile Pro Pro Ala  
 275 280 285  
 ctc aac ccc atg gtt tac gga gtg aag acc aag cag atc aga gat aag 912  
 Leu Asn Pro Met Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp Lys  
 290 295 300  
 gtt ata ctt ttg ttt tct aag ggt aca gga tga 945  
 Val Ile Leu Leu Phe Ser Lys Gly Thr Gly  
 305 310

<210> 412  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 412

Met Ile Ile Phe Asn Leu Ser Ser Tyr Asn Pro Gly Pro Phe Ile Leu  
1 5 10 15

Val Gly Ile Pro Gly Leu Glu Gln Phe His Val Trp Ile Gly Ile Pro  
20 25 30

Phe Cys Ile Ile Tyr Ile Val Ala Val Val Gly Asn Cys Ile Leu Leu  
35 40 45

Tyr Leu Ile Val Val Glu His Ser Leu His Glu Pro Met Phe Phe Phe  
50 55 60

Leu Ser Met Leu Ala Met Thr Asp Leu Ile Leu Ser Thr Ala Gly Val  
65 70 75 80

Pro Lys Ala Leu Ser Ile Phe Trp Leu Gly Ala Arg Glu Ile Thr Phe  
85 90 95

Pro Gly Cys Leu Thr Gln Met Phe Phe Leu His Tyr Asn Phe Val Leu  
100 105 110

Asp Ser Ala Ile Leu Met Ala Met Ala Phe Asp His Tyr Val Ala Ile  
 115 120 125

Cys Ser Pro Leu Arg Tyr Thr Thr Ile Leu Thr Pro Lys Thr Ile Ile  
 130 135 140

Lys Ser Ala Met Gly Ile Ser Phe Arg Ser Phe Cys Ile Ile Leu Pro  
 145 150 155 160

Asp Val Phe Leu Leu Thr Cys Leu Pro Phe Cys Arg Thr Arg Ile Ile  
 165 170 175

Pro His Thr Tyr Cys Glu His Ile Gly Val Ala Gln Leu Ala Cys Ala  
 180 185 190

Asp Ile Ser Ile Asn Phe Trp Tyr Gly Phe Cys Val Pro Ile Met Thr  
 195 200 205

Val Ile Ser Asp Val Ile Leu Ile Ala Val Ser Tyr Ala His Ile Leu  
 210 215 220

Cys Ala Val Phe Gly Leu Pro Ser Gln Asp Ala Cys Gln Lys Ala Leu  
 225 230 235 240

Gly Thr Cys Gly Ser His Val Cys Val Ile Leu Met Phe Tyr Thr Pro  
 245 250 255

Ala Phe Phe Ser Ile Leu Ala His Arg Phe Gly His Asn Val Ser Arg  
 260 265 270

Thr Phe His Ile Met Phe Ala Asn Leu Tyr Ile Val Ile Pro Pro Ala  
 275 280 285

Leu Asn Pro Met Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp Lys  
 290 295 300

Val Ile Leu Leu Phe Ser Lys Gly Thr Gly  
 305 310

<210> 413  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(936)

&lt;223&gt;

&lt;400&gt; 413

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Met Gly Leu Phe Asn Val Thr His Pro Ala Phe Phe Leu Leu Thr Gly	
1 5 10 15	
atc cct ggt ctg gag agc tct cac tcc tgg ctg tca ggg ccc ctc tgc	96
Ile Pro Gly Leu Glu Ser Ser His Ser Trp Leu Ser Gly Pro Leu Cys	
20 25 30	
gtg atg tat gct gtg gcc ctt ggg gga aat aca gtg atc ctg cag gct	144
Val Met Tyr Ala Val Ala Leu Gly Gly Asn Thr Val Ile Leu Gln Ala	
35 40 45	
gtg cga gtg gag ccc agc ctc cat gag ccc atg tac tac ttc ctg tcc	192
Val Arg Val Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ser	
50 55 60	
atg ttg tcc ttc agt gat gtg gcc ata tcc atg gcc aca ctg ccc act	240
Met Leu Ser Phe Ser Asp Val Ala Ile Ser Met Ala Thr Leu Pro Thr	
65 70 75 80	
gta ctc cga acc ttc tgc ctc aat gcc cgc aac atc act ttt gat gcc	288
Val Leu Arg Thr Phe Cys Leu Asn Ala Arg Asn Ile Thr Phe Asp Ala	
85 90 95	
tgt cta att cag atg ttt ctt att cac ttc ttc tcc atg atg gaa tca	336
Cys Leu Ile Gln Met Phe Leu Ile His Phe Phe Ser Met Met Glu Ser	
100 105 110	
ggg att ctg ctg gcc atg agt ttt gac cgc tat gtg gcc att tgt gac	384
Gly Ile Leu Leu Ala Met Ser Phe Asp Arg Tyr Val Ala Ile Cys Asp	
115 120 125	
ccc ttg cgc tat gca act gtg ctc acc act gaa gtc att gct gca atg	432
Pro Leu Arg Tyr Ala Thr Val Leu Thr Thr Glu Val Ile Ala Ala Met	
130 135 140	
ggg tta ggt gca gct gct cga agc ttc atc acc ctt ttc cct ctt ccc	480
Gly Leu Gly Ala Ala Arg Ser Phe Ile Thr Leu Phe Pro Leu Pro	
145 150 155 160	
ttt ctt att aag agg ctg cct atc tgc aga tcc aat gtt ctt tct cac	528
Phe Leu Ile Lys Arg Leu Pro Ile Cys Arg Ser Asn Val Leu Ser His	
165 170 175	
tcc tac tgc ctg cac cca gac atg atg agg ctt gcc tgt gct gat atc	576
Ser Tyr Cys Leu His Pro Asp Met Met Arg Leu Ala Cys Ala Asp Ile	
180 185 190	
agt atc aac agc atc tat gga ctc ttt gtt ctt gta tcc acc ttt ggc	624
Ser Ile Asn Ser Ile Tyr Gly Leu Phe Val Leu Val Ser Thr Phe Gly	
195 200 205	
atg gac ctg ttt ttt atc ttc ctc tcc tat gtg ctc att ctg cgt tct	672
Met Asp Leu Phe Phe Ile Phe Leu Ser Tyr Val Leu Ile Leu Arg Ser	
210 215 220	
gtc atg gcc act gct tcc cgt gag gaa cgc ctc aaa gct ctc aac aca	720

Val Met Ala Thr Ala Ser Arg Glu Glu Arg Leu Lys Ala Leu Asn Thr  
 225 230 235 240

tgt gtg tca cat atc ctg gct gta ctt gca ttt tat gtg cca atg att 768  
 Cys Val Ser His Ile Leu Ala Val Leu Ala Phe Tyr Val Pro Met Ile  
 245 250 255

ggg gtc tcc aca gtg cac cgc ttt ggg aag cat gtc cca tgc tac ata 816  
 Gly Val Ser Thr Val His Arg Phe Gly Lys His Val Pro Cys Tyr Ile  
 260 265 270

cat gtc ctc atg tca aat gtg tac cta ttt gtg cct cct gtg ctc aac 864  
 His Val Leu Met Ser Asn Val Tyr Leu Phe Val Pro Pro Val Leu Asn  
 275 280 285

cct ctc att tat agc gcc aag aca aag gaa atc cgc cga gcc att ttc 912  
 Pro Leu Ile Tyr Ser Ala Lys Thr Lys Glu Ile Arg Arg Ala Ile Phe  
 290 295 300

cgc atg ttt cac cac atc aaa ata tga 939  
 Arg Met Phe His His Ile Lys Ile  
 305 310

<210> 414  
 <211> 312  
 <212> PRT  
 <213> Homo Sapiens

<400> 414

Met Gly Leu Phe Asn Val Thr His Pro Ala Phe Phe Leu Leu Thr Gly  
 1 5 10 15

Ile Pro Gly Leu Glu Ser Ser His Ser Trp Leu Ser Gly Pro Leu Cys  
 20 25 30

Val Met Tyr Ala Val Ala Leu Gly Gly Asn Thr Val Ile Leu Gln Ala  
 35 40 45

Val Arg Val Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60

Met Leu Ser Phe Ser Asp Val Ala Ile Ser Met Ala Thr Leu Pro Thr  
 65 70 75 80

Val Leu Arg Thr Phe Cys Leu Asn Ala Arg Asn Ile Thr Phe Asp Ala  
 85 90 95

Cys Leu Ile Gln Met Phe Leu Ile His Phe Phe Ser Met Met Glu Ser  
 100 105 110

Gly Ile Leu Leu Ala Met Ser Phe Asp Arg Tyr Val Ala Ile Cys Asp  
 115 120 125

Pro Leu Arg Tyr Ala Thr Val Leu Thr Thr Glu Val Ile Ala Ala Met  
 130 135 140

Gly Leu Gly Ala Ala Ala Arg Ser Phe Ile Thr Leu Phe Pro Leu Pro  
 145 150 155 160

Phe Leu Ile Lys Arg Leu Pro Ile Cys Arg Ser Asn Val Leu Ser His  
 165 170 175

Ser Tyr Cys Leu His Pro Asp Met Met Arg Leu Ala Cys Ala Asp Ile  
 180 185 190

Ser Ile Asn Ser Ile Tyr Gly Leu Phe Val Leu Val Ser Thr Phe Gly  
 195 200 205

Met Asp Leu Phe Phe Ile Phe Leu Ser Tyr Val Leu Ile Leu Arg Ser  
 210 215 220

Val Met Ala Thr Ala Ser Arg Glu Glu Arg Leu Lys Ala Leu Asn Thr  
 225 230 235 240

Cys Val Ser His Ile Leu Ala Val Leu Ala Phe Tyr Val Pro Met Ile  
 245 250 255

Gly Val Ser Thr Val His Arg Phe Gly Lys His Val Pro Cys Tyr Ile  
 260 265 270

His Val Leu Met Ser Asn Val Tyr Leu Phe Val Pro Pro Val Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Ala Lys Thr Lys Glu Ile Arg Arg Ala Ile Phe  
 290 295 300

Arg Met Phe His His Ile Lys Ile  
 305 310

<210> 415  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

<400> 415  
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 Met Leu Gly Leu Asn Gly Thr Pro Phe Gln Pro Ala Thr Leu Gln Leu  
 1 5 10 15

aca ggc att cct ggg ata caa aca ggc ctc acc tgg gtt gcc ctg att 96  
 Thr Gly Ile Pro Gly Ile Gln Thr Gly Leu Thr Trp Val Ala Leu Ile  
 20 25 30

ttc tgc atc ctc tac atg atc tcc att gta ggt aac ctc agc att ctc 144  
 Phe Cys Ile Leu Tyr Met Ile Ser Ile Val Gly Asn Leu Ser Ile Leu  
 35 40 45

act ctg gtg ttt tgg gag cct gct ctg cat cag ccc atg tac tac ttc 192  
 Thr Leu Val Phe Trp Glu Pro Ala Leu His Gln Pro Met Tyr Tyr Phe  
 50 55 60

ctc tct atg ctc gct ctc aat gat ctg gga gtg tcc ttt tct aca ctt 240  
 Leu Ser Met Leu Ala Leu Asn Asp Leu Gly Val Ser Phe Ser Thr Leu  
 65 70 75 80

ccc act gtg att tct act ttc tgc ttc aac tac aac cat gtt gcg ttt 288  
 Pro Thr Val Ile Ser Thr Phe Cys Phe Asn Tyr Asn His Val Ala Phe  
 85 90 95

aat gct tgc ctg gtc cag atg ttc ttc atc cac act ttc tcc ttc atg 336  
 Asn Ala Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Ser Phe Met  
 100 105 110

gag tca ggc ata ctg ctg gcc atg agc ttg gat cgc ttt gtg gct att 384  
 Glu Ser Gly Ile Leu Leu Ala Met Ser Leu Asp Arg Phe Val Ala Ile  
 115 120 125

tgt tat cca tta cgc tat gtc act gtg ctc act cac aac cgt ata ttg 432  
 Cys Tyr Pro Leu Arg Tyr Val Thr Val Leu Thr His Asn Arg Ile Leu  
 130 135 140

gct atg ggt ctg ggc atc ctt acc aag agt ttc acc act ctc ttc cct 480  
 Ala Met Gly Leu Gly Ile Leu Thr Lys Ser Phe Thr Thr Leu Phe Pro  
 145 150 155 160

ttc cct ttt gtg gtg aaa cga ctg ccc ttc tgc aaa ggc aat gtt ttg 528  
 Phe Pro Phe Val Val Lys Arg Leu Pro Phe Cys Lys Gly Asn Val Leu  
 165 170 175

cat cac tcc tac tgt ctc cat cca gat ctc atg aaa gta gca tgt gga 576  
 His His Ser Tyr Cys Leu His Pro Asp Leu Met Lys Val Ala Cys Gly  
 180 185 190

gac atc cat gtt aac aac att tat ggg ctc ttg gtg atc att ttt acc 624  
 Asp Ile His Val Asn Asn Ile Tyr Gly Leu Leu Val Ile Ile Phe Thr  
 195 200 205

tat ggt atg gac tca act ttc atc ctg ctt tcc tac gca ttg atc ctg 672  
 Tyr Gly Met Asp Ser Thr Phe Ile Leu Leu Ser Tyr Ala Leu Ile Leu  
 210 215 220

aga gcc atg ctg gtc atc ata tcc cag gaa cag cgg ctc aag gca ctc 720  
 Arg Ala Met Leu Val Ile Ile Ser Gln Glu Gln Arg Leu Lys Ala Leu  
 225 230 235 240



aac acc tgc atg tca cac atc tgt gca gtg ctg gcc ttt tat gtg ccc 768  
 Asn Thr Cys Met Ser His Ile Cys Ala Val Leu Ala Phe Tyr Val Pro  
 245 250 255  
 ata att gct gtc tcc atg att cac cgc ttc tgg aaa agt gct cca cct 816  
 Ile Ile Ala Val Ser Met Ile His Arg Phe Trp Lys Ser Ala Pro Pro  
 260 265 270  
 gtt gtt cat gtc atg atg tcc aat gtc tac ctg ttt gta cca ccc atg 864  
 Val Val His Val Met Met Ser Asn Val Tyr Leu Phe Val Pro Pro Met  
 275 280 285  
 ctc aac cct atc atc tac agt gtg aaa acc aag gag atc cgc aaa ggg 912  
 Leu Asn Pro Ile Ile Tyr Ser Val Lys Thr Lys Glu Ile Arg Lys Gly  
 290 295 300  
 att ctc aag ttc ttc cat aaa tcc cag gcc tga 945  
 Ile Leu Lys Phe Phe His Lys Ser Gln Ala  
 305 310

<210> 416  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 416

Met Leu Gly Leu Asn Gly Thr Pro Phe Gln Pro Ala Thr Leu Gln Leu  
 1 5 10 15  
 Thr Gly Ile Pro Gly Ile Gln Thr Gly Leu Thr Trp Val Ala Leu Ile  
 20 25 30  
 Phe Cys Ile Leu Tyr Met Ile Ser Ile Val Gly Asn Leu Ser Ile Leu  
 35 40 45  
 Thr Leu Val Phe Trp Glu Pro Ala Leu His Gln Pro Met Tyr Tyr Phe  
 50 55 60  
 Leu Ser Met Leu Ala Leu Asn Asp Leu Gly Val Ser Phe Ser Thr Leu  
 65 70 75 80  
 Pro Thr Val Ile Ser Thr Phe Cys Phe Asn Tyr Asn His Val Ala Phe  
 85 90 95  
 Asn Ala Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Ser Phe Met  
 100 105 110  
 Glu Ser Gly Ile Leu Leu Ala Met Ser Leu Asp Arg Phe Val Ala Ile  
 115 120 125  
 Cys Tyr Pro Leu Arg Tyr Val Thr Val Leu Thr His Asn Arg Ile Leu

130                      135                      140  
 Ala Met Gly Leu Gly Ile Leu Thr Lys Ser Phe Thr Thr Leu Phe Pro  
 145                      150                      155                      160  
 Phe Pro Phe Val Val Lys Arg Leu Pro Phe Cys Lys Gly Asn Val Leu  
 165                      170                      175  
 His His Ser Tyr Cys Leu His Pro Asp Leu Met Lys Val Ala Cys Gly  
 180                      185                      190  
 Asp Ile His Val Asn Asn Ile Tyr Gly Leu Leu Val Ile Ile Phe Thr  
 195                      200                      205  
 Tyr Gly Met Asp Ser Thr Phe Ile Leu Leu Ser Tyr Ala Leu Ile Leu  
 210                      215                      220  
 Arg Ala Met Leu Val Ile Ile Ser Gln Glu Gln Arg Leu Lys Ala Leu  
 225                      230                      235                      240  
 Asn Thr Cys Met Ser His Ile Cys Ala Val Leu Ala Phe Tyr Val Pro  
 245                      250                      255  
 Ile Ile Ala Val Ser Met Ile His Arg Phe Trp Lys Ser Ala Pro Pro  
 260                      265                      270  
 Val Val His Val Met Met Ser Asn Val Tyr Leu Phe Val Pro Pro Met  
 275                      280                      285  
 Leu Asn Pro Ile Ile Tyr Ser Val Lys Thr Lys Glu Ile Arg Lys Gly  
 290                      295                      300  
 Ile Leu Lys Phe Phe His Lys Ser Gln Ala  
 305                      310

<210> 417  
 <211> 981  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(978)  
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<400> 417  
 atg tca gtc caa tat tcg ctc agt cct caa ttc atg ctg cta tcc aac  
 Met Ser Val Gln Tyr Ser Leu Ser Pro Gln Phe Met Leu Leu Ser Asn

48

1	5	10	15	
att act cag ttt agc ccc ata ttc tat ctc acc agc ttt cct gga ttg				96
Ile Thr Gln Phe Ser Pro Ile Phe Tyr Leu Thr Ser Phe Pro Gly Leu				
	20	25	30	
gaa ggc atc aaa cac tgg att ttc atc ccc ttt ttc ttt atg tac atg				144
Glu Gly Ile Lys His Trp Ile Phe Ile Pro Phe Phe Phe Met Tyr Met				
	35	40	45	
gtt gcc atc tca ggc aat tgt ttc att ctg atc att att aag acc aac				192
Val Ala Ile Ser Gly Asn Cys Phe Ile Leu Ile Ile Ile Lys Thr Asn				
	50	55	60	
cct cgt ctg cac aca ccc atg tac tat cta cta tcc ttg ctg gcc ctc				240
Pro Arg Leu His Thr Pro Met Tyr Tyr Leu Leu Ser Leu Leu Ala Leu				
	65	70	75	80
act gac ctg ggg ctg tgt gtg tcc acg ttg ccc acc act atg ggg atc				288
Thr Asp Leu Gly Leu Cys Val Ser Thr Leu Pro Thr Thr Met Gly Ile				
	85	90	95	
ttc tgg ttt aac tcc cag agt atc tac ttt gga gcg tgt caa atc cag				336
Phe Trp Phe Asn Ser Gln Ser Ile Tyr Phe Gly Ala Cys Gln Ile Gln				
	100	105	110	
atg ttc tgc atc cac tct ttt tcc ttc atg gag tcc tca gtg ctc ctc				384
Met Phe Cys Ile His Ser Phe Ser Phe Met Glu Ser Ser Val Leu Leu				
	115	120	125	
atg atg tcc ttt gac cgc ttt gtg gcc atc tgc cac cct ctg agg tat				432
Met Met Ser Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg Tyr				
	130	135	140	
tgc gtc att atc act ggc cag caa gtg gtc aga gca ggc cta att gtc				480
Ser Val Ile Ile Thr Gln Gln Val Val Arg Ala Gly Leu Ile Val				
	145	150	155	160
atc ttc cgg gga cct gtg gcc act atc cct att gtc ctc ctc ctg aag				528
Ile Phe Arg Gly Pro Val Ala Thr Ile Pro Ile Val Leu Leu Leu Lys				
	165	170	175	
gct ttt ccc tac tgt gga tct gtg gtc ctc tcc cac tca ttt tgc ctg				576
Ala Phe Pro Tyr Cys Gly Ser Val Val Leu Ser His Ser Phe Cys Leu				
	180	185	190	
cac cag gaa gtg ata cag ctg gcc tgc aca gat acc acc ttc aat aat				624
His Gln Glu Val Ile Gln Leu Ala Cys Thr Asp Thr Thr Phe Asn Asn				
	195	200	205	
ctg tat gga ctg atg gtg gta gtt ttc act gtg atg ctg gac ctg gtg				672
Leu Tyr Gly Leu Met Val Val Val Phe Thr Val Met Leu Asp Leu Val				
	210	215	220	
ctc atc gca ctg tcc tat gga ctc atc ctg cac aca gta gca ggc ctg				720
Leu Ile Ala Leu Ser Tyr Gly Leu Ile Leu His Thr Val Ala Gly Leu				
	225	230	235	240
gcc tcc caa gag gag cag cgc cgt gcc ttt cag aca tgc acc gct cat				768
Ala Ser Gln Glu Glu Gln Arg Arg Ala Phe Gln Thr Cys Thr Ala His				
	245	250	255	

ctc tgt gct gtg cta gta ttc ttt gtg ccc atg atg ggg ctg tcc ctg 816  
 Leu Cys Ala Val Leu Val Phe Phe Val Pro Met Met Gly Leu Ser Leu  
                   260                  265                  270

gtg cac cgt ttt ggg aag cat gcc cca cct gct att cat ctt ctt atg 864  
 Val His Arg Phe Gly Lys His Ala Pro Pro Ala Ile His Leu Leu Met  
                   275                  280                  285

gcc aat gtc tac ctt ttt gtg cct ccc atg ctt aac cca atc ata tac 912  
 Ala Asn Val Tyr Leu Phe Val Pro Pro Met Leu Asn Pro Ile Ile Tyr  
                   290                  295                  300

agc att aag acc aag gag atc cac cgt gcc att atc aaa ctc cta ggt 960  
 Ser Ile Lys Thr Lys Glu Ile His Arg Ala Ile Ile Lys Leu Leu Gly  
 305                  310                  315                  320

ctt aaa aag gcc agt aaa tga 981  
 Leu Lys Lys Ala Ser Lys  
                   325

<210> 418  
 <211> 326  
 <212> PRT  
 <213> Homo Sapiens

<400> 418

Met Ser Val Gln Tyr Ser Leu Ser Pro Gln Phe Met Leu Leu Ser Asn  
 1                  5                  10                  15

Ile Thr Gln Phe Ser Pro Ile Phe Tyr Leu Thr Ser Phe Pro Gly Leu  
                   20                  25                  30

Glu Gly Ile Lys His Trp Ile Phe Ile Pro Phe Phe Phe Met Tyr Met  
                   35                  40                  45

Val Ala Ile Ser Gly Asn Cys Phe Ile Leu Ile Ile Ile Lys Thr Asn  
                   50                  55                  60

Pro Arg Leu His Thr Pro Met Tyr Tyr Leu Leu Ser Leu Leu Ala Leu  
 65                  70                  75                  80

Thr Asp Leu Gly Leu Cys Val Ser Thr Leu Pro Thr Thr Met Gly Ile  
                   85                  90                  95

Phe Trp Phe Asn Ser Gln Ser Ile Tyr Phe Gly Ala Cys Gln Ile Gln  
                   100                  105                  110

Met Phe Cys Ile His Ser Phe Ser Phe Met Glu Ser Ser Val Leu Leu  
                   115                  120                  125

Met Met Ser Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg Tyr  
 130 135 140

Ser Val Ile Ile Thr Gly Gln Gln Val Val Arg Ala Gly Leu Ile Val  
 145 150 155 160

Ile Phe Arg Gly Pro Val Ala Thr Ile Pro Ile Val Leu Leu Leu Lys  
 165 170 175

Ala Phe Pro Tyr Cys Gly Ser Val Val Leu Ser His Ser Phe Cys Leu  
 180 185 190

His Gln Glu Val Ile Gln Leu Ala Cys Thr Asp Thr Thr Phe Asn Asn  
 195 200 205

Leu Tyr Gly Leu Met Val Val Val Phe Thr Val Met Leu Asp Leu Val  
 210 215 220

Leu Ile Ala Leu Ser Tyr Gly Leu Ile Leu His Thr Val Ala Gly Leu  
 225 230 235 240

Ala Ser Gln Glu Glu Gln Arg Arg Ala Phe Gln Thr Cys Thr Ala His  
 245 250 255

Leu Cys Ala Val Leu Val Phe Phe Val Pro Met Met Gly Leu Ser Leu  
 260 265 270

Val His Arg Phe Gly Lys His Ala Pro Pro Ala Ile His Leu Leu Met  
 275 280 285

Ala Asn Val Tyr Leu Phe Val Pro Pro Met Leu Asn Pro Ile Ile Tyr  
 290 295 300

Ser Ile Lys Thr Lys Glu Ile His Arg Ala Ile Ile Lys Leu Leu Gly  
 305 310 315 320

Leu Lys Lys Ala Ser Lys  
 325

<210> 419  
 <211> 954  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(951)  
 <223>

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<400> 419
atg tcc cag gtg act aac acc aca caa gaa ggc atc tac ttc atc ctc      48
Met Ser Gln Val Thr Asn Thr Thr Gln Glu Gly Ile Tyr Phe Ile Leu
1          5          10          15

acg gac atc cct gga ttt gag gcc tcc cac atc tgg atc tcc atc ccc      96
Thr Asp Ile Pro Gly Phe Glu Ala Ser His Ile Trp Ile Ser Ile Pro
          20          25          30

gtc tgc tgt ctc tac acc atc tcc atc atg ggc aat acc acc atc ctc      144
Val Cys Cys Leu Tyr Thr Ile Ser Ile Met Gly Asn Thr Thr Ile Leu
          35          40          45

act gtc att cgc aca gag cca tct gtc cac cag cgc atg tat ctg ttt      192
Thr Val Ile Arg Thr Glu Pro Ser Val His Gln Arg Met Tyr Leu Phe
          50          55          60

ctc tcc atg ctg gcc ctg acg gac ctg ggt ctc acc ctc acc acc cta      240
Leu Ser Met Leu Ala Leu Thr Asp Leu Gly Leu Thr Leu Thr Thr Leu
65          70          75          80

ccc aca gtc atg cag ctt ctc tgg ttc aac gtt cgt aga atc agc tct      288
Pro Thr Val Met Gln Leu Leu Trp Phe Asn Val Arg Arg Ile Ser Ser
          85          90          95

gag gcc tgt ttt gct cag ttt ttc ttc ctt cat gga ttc tcc ttt atg      336
Glu Ala Cys Phe Ala Gln Phe Phe Phe Leu His Gly Phe Ser Phe Met
          100          105          110

gag tct tct gtc ctc ctg gct atg tcc gtt gac tgc tat gtg gcc atc      384
Glu Ser Ser Val Leu Leu Ala Met Ser Val Asp Cys Tyr Val Ala Ile
          115          120          125

tgc tgt ccc ctc cat tat gcc tcc atc ctc acc aat gaa gtc att ggt      432
Cys Cys Pro Leu His Tyr Ala Ser Ile Leu Thr Asn Glu Val Ile Gly
          130          135          140

aga act ggg tta gcc atc att tgc tgc tgt gtt ctg gcg gtt ctt ccc      480
Arg Thr Gly Leu Ala Ile Ile Cys Cys Cys Val Leu Ala Val Leu Pro
          145          150          155          160

tcc ctt ttc tta ctc aag cga ctg cct ttc tgc cac tcc cac ctt ctc      528
Ser Leu Phe Leu Leu Lys Arg Leu Pro Phe Cys His Ser His Leu Leu
          165          170          175

tct cgc tcc tat tgc ctc cac cag gat atg atc cgc ctg gtc tgt gct      576
Ser Arg Ser Tyr Cys Leu His Gln Asp Met Ile Arg Leu Val Cys Ala
          180          185          190

gac atc agg ctc aac agc tgg tat gga ttt gct ctt gcc ttg ctc att      624
Asp Ile Arg Leu Asn Ser Trp Tyr Gly Phe Ala Leu Ala Leu Leu Ile
          195          200          205

att atc gtg gat cct ctg ctc att gtg atc tcc tat aca ctt att ctg      672
Ile Ile Val Asp Pro Leu Leu Ile Val Ile Ser Tyr Thr Leu Ile Leu
          210          215          220

aaa aat atc ttg ggc aca gcc acc tgg gct gag cga ctc cgt gcc ctc      720
Lys Asn Ile Leu Gly Thr Ala Thr Trp Ala Glu Arg Leu Arg Ala Leu

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225	230	235	240	
aat aac tgc ctg tcc cac att cta gct gtc ctg gtc ctc tac att ccc				768
Asn Asn Cys Leu Ser His Ile Leu Ala Val Leu Val Leu Tyr Ile Pro	245	250	255	
atg gtt ggt gta tct atg act cat cgc ttt gcc aag cat gcc tct cca				816
Met Val Gly Val Ser Met Thr His Arg Phe Ala Lys His Ala Ser Pro	260	265	270	
ctg gtc cat gtt atc atg gcc aat atc tac ctg ctg gca ccc ccg gtg				864
Leu Val His Val Ile Met Ala Asn Ile Tyr Leu Leu Ala Pro Pro Val	275	280	285	
atg aac ccc atc att tac agt gta aag aac aag cag atc caa tgg gga				912
Met Asn Pro Ile Ile Tyr Ser Val Lys Asn Lys Gln Ile Gln Trp Gly	290	295	300	
atg tta aat ttc ctt tcc ctc aaa aat atg cat tca aga tga				954
Met Leu Asn Phe Leu Ser Leu Lys Asn Met His Ser Arg	305	310	315	

<210> 420  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 420

Met Ser Gln Val Thr Asn Thr Thr Gln Glu Gly Ile Tyr Phe Ile Leu	1	5	10	15
Thr Asp Ile Pro Gly Phe Glu Ala Ser His Ile Trp Ile Ser Ile Pro	20	25	30	
Val Cys Cys Leu Tyr Thr Ile Ser Ile Met Gly Asn Thr Thr Ile Leu	35	40	45	
Thr Val Ile Arg Thr Glu Pro Ser Val His Gln Arg Met Tyr Leu Phe	50	55	60	
Leu Ser Met Leu Ala Leu Thr Asp Leu Gly Leu Thr Leu Thr Thr Leu	65	70	75	80
Pro Thr Val Met Gln Leu Leu Trp Phe Asn Val Arg Arg Ile Ser Ser	85	90	95	
Glu Ala Cys Phe Ala Gln Phe Phe Phe Leu His Gly Phe Ser Phe Met	100	105	110	
Glu Ser Ser Val Leu Leu Ala Met Ser Val Asp Cys Tyr Val Ala Ile	115	120	125	

Cys Cys Pro Leu His Tyr Ala Ser Ile Leu Thr Asn Glu Val Ile Gly  
 130 135 140

Arg Thr Gly Leu Ala Ile Ile Cys Cys Cys Val Leu Ala Val Leu Pro  
 145 150 155 160

Ser Leu Phe Leu Leu Lys Arg Leu Pro Phe Cys His Ser His Leu Leu  
 165 170 175

Ser Arg Ser Tyr Cys Leu His Gln Asp Met Ile Arg Leu Val Cys Ala  
 180 185 190

Asp Ile Arg Leu Asn Ser Trp Tyr Gly Phe Ala Leu Ala Leu Leu Ile  
 195 200 205

Ile Ile Val Asp Pro Leu Leu Ile Val Ile Ser Tyr Thr Leu Ile Leu  
 210 215 220

Lys Asn Ile Leu Gly Thr Ala Thr Trp Ala Glu Arg Leu Arg Ala Leu  
 225 230 235 240

Asn Asn Cys Leu Ser His Ile Leu Ala Val Leu Val Leu Tyr Ile Pro  
 245 250 255

Met Val Gly Val Ser Met Thr His Arg Phe Ala Lys His Ala Ser Pro  
 260 265 270

Leu Val His Val Ile Met Ala Asn Ile Tyr Leu Leu Ala Pro Pro Val  
 275 280 285

Met Asn Pro Ile Ile Tyr Ser Val Lys Asn Lys Gln Ile Gln Trp Gly  
 290 295 300

Met Leu Asn Phe Leu Ser Leu Lys Asn Met His Ser Arg  
 305 310 315

<210> 421  
 <211> 966  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (963)  
 <223>

<400> 421



atg cta aca ctg aat aaa aca gac cta ata cca gct tca ttt att ctg	48
Met Leu Thr Leu Asn Lys Thr Asp Leu Ile Pro Ala Ser Phe Ile Leu	
1 5 10 15	
aat gga gtc cca gga ctg gaa gac aca caa ctc tgg att tcc ttc cca	96
Asn Gly Val Pro Gly Leu Glu Asp Thr Gln Leu Trp Ile Ser Phe Pro	
20 25 30	
ttc tgc tct atg tat gtt gtg gct atg gta ggg aat tgt gga ctc ctc	144
Phe Cys Ser Met Tyr Val Val Ala Met Val Gly Asn Cys Gly Leu Leu	
35 40 45	
tac ctc att cac tat gag gat gcc ctg cac aaa ccc atg tac tac ttc	192
Tyr Leu Ile His Tyr Glu Asp Ala Leu His Lys Pro Met Tyr Tyr Phe	
50 55 60	
ttg gcc atg ctt tcc ttt act gac ctt gtt atg tgc tct agt aca atc	240
Leu Ala Met Leu Ser Phe Thr Asp Leu Val Met Cys Ser Ser Thr Ile	
65 70 75 80	
cct aaa gcc ctc tgc atc ttc tgg ttt cat ctc aag gac att gga ttt	288
Pro Lys Ala Leu Cys Ile Phe Trp Phe His Leu Lys Asp Ile Gly Phe	
85 90 95	
gat gaa tgc ctt gtc cag atg ttc ttc atc cac acc ttc aca ggg atg	336
Asp Glu Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Thr Gly Met	
100 105 110	
gag tct ggg gtg ctt atg ctt atg gcc ctg gat cgc tat gtg gcc atc	384
Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc tac ccc tta cgc tat tca act atc ctc acc aat cct gta att gca	432
Cys Tyr Pro Leu Arg Tyr Ser Thr Ile Leu Thr Asn Pro Val Ile Ala	
130 135 140	
aag gtt ggg act gcc acc ttc ctg aga ggg gta tta ctc att att ccc	480
Lys Val Gly Thr Ala Thr Phe Leu Arg Gly Val Leu Leu Ile Ile Pro	
145 150 155 160	
ttt act ttc ctc acc aag cgc ctg ccc tac tgc aga ggc aat ata ctt	528
Phe Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Ile Leu	
165 170 175	
ccc cat acc tac tgt gac cac atg tct gta gcc aaa ttg tcc tgt ggt	576
Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Leu Ser Cys Gly	
180 185 190	
aat gtc aag gtc aat gcc atc tat ggt ctg atg gtt gcc ctc ctg att	624
Asn Val Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile	
195 200 205	
ggg ggc ttt gac ata ctg tgt atc acc atc tcc tat acc atg att ctc	672
Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu	
210 215 220	
cgg gca gtg gtc agc ctc tcc tca gca gat gct cgg cag aag gcc ttt	720
Arg Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe	
225 230 235 240	
aat acc tgc act gcc cac att tgt gcc att gtt ttc tcc tat act cca	768

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<210> 422
<211> 321
<212> PRT
<213> Homo Sapiens
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<400> 422

Asn Gly Val Pro Gly Leu Glu Asp Thr Gln Leu Trp Ile Ser Phe Pro  
20 25 30

Phe Cys Ser Met Tyr Val Val Ala Met Val Gly Asn Cys Gly Leu Leu  
35 40 45

Tyr Leu Ile His Tyr Glu Asp Ala Leu His Lys Pro Met Tyr Tyr Phe  
50 55 60

Leu Ala Met Leu Ser Phe Thr Asp Leu Val Met Cys Ser Ser Thr Ile  
65 70 75 80

Pro Lys Ala Leu Cys Ile Phe Trp Phe His Leu Lys Asp Ile Gly Phe  
85 90 95

Asp Glu Cys Leu Val Gln Met Phe Phe Ile His Thr Phe Thr Gly Met  
100 105 110

Glu Ser Gly Val Leu Met Leu Met Ala Leu Asp Arg Tyr Val Ala Ile  
115 120 125

Cys Tyr Pro Leu Arg Tyr Ser Thr Ile Leu Thr Asn Pro Val Ile Ala  
 130 135 140

Lys Val Gly Thr Ala Thr Phe Leu Arg Gly Val Leu Leu Ile Ile Pro  
 145 150 155 160

Phe Thr Phe Leu Thr Lys Arg Leu Pro Tyr Cys Arg Gly Asn Ile Leu  
 165 170 175

Pro His Thr Tyr Cys Asp His Met Ser Val Ala Lys Leu Ser Cys Gly  
 180 185 190

Asn Val Lys Val Asn Ala Ile Tyr Gly Leu Met Val Ala Leu Leu Ile  
 195 200 205

Gly Gly Phe Asp Ile Leu Cys Ile Thr Ile Ser Tyr Thr Met Ile Leu  
 210 215 220

Arg Ala Val Val Ser Leu Ser Ser Ala Asp Ala Arg Gln Lys Ala Phe  
 225 230 235 240

Asn Thr Cys Thr Ala His Ile Cys Ala Ile Val Phe Ser Tyr Thr Pro  
 245 250 255

Ala Phe Phe Ser Phe Phe Ser His Arg Phe Gly Glu His Ile Ile Pro  
 260 265 270

Pro Ser Cys His Ile Ile Val Ala Asn Ile Tyr Leu Leu Leu Pro Pro  
 275 280 285

Thr Met Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Asp  
 290 295 300

Cys Val Ile Arg Ile Leu Ser Gly Ser Lys Asp Thr Lys Ser Tyr Ser  
 305 310 315 320

Met

<210> 423  
 <211> 966  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS

&lt;222&gt; (1) .. (963)

&lt;223&gt;

&lt;400&gt; 423

atg gaa tct cct aat cac act gat gtt gac cct tct gtc ttc ttc ctc	48
Met Glu Ser Pro Asn His Thr Asp Val Asp Pro Ser Val Phe Phe Leu	
1 5 10 15	
ctg ggc atc cca ggt ctg gaa caa ttt cat ttg tgg ctc tca ctc cct	96
Leu Gly Ile Pro Gly Leu Glu Gln Phe His Leu Trp Leu Ser Leu Pro	
20 25 30	
gtg tgt ggc tta ggc aca gcc aca att gtg ggc aat ata act att ctg	144
Val Cys Gly Leu Gly Thr Ala Thr Ile Val Gly Asn Ile Thr Ile Leu	
35 40 45	
gtt gtt gtt gcc act gaa cca gtc ttg cac aag cct gtg tac ctt ttt	192
Val Val Val Ala Thr Glu Pro Val Leu His Lys Pro Val Tyr Leu Phe	
50 55 60	
ctg tgc atg ctc tca acc atc gac ttg gct gcc tct gtc tcc aca gtt	240
Leu Cys Met Leu Ser Thr Ile Asp Leu Ala Ala Ser Val Ser Thr Val	
65 70 75 80	
ccc aag cta ctg gct atc ttc tgg tgt gga gcc gga cat ata tct gcc	288
Pro Lys Leu Leu Ala Ile Phe Trp Cys Gly Ala Gly His Ile Ser Ala	
85 90 95	
tct gcc tgc ctg gca cag atg ttc ttc att cat gcc ttc tgc atg atg	336
Ser Ala Cys Leu Ala Gln Met Phe Phe Ile His Ala Phe Cys Met Met	
100 105 110	
gag tcc act gtg cta ctg gcc atg gcc ttt gat cgc tac gtg gcc atc	384
Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc cac cca ctc cgc tat gcc aca atc ctc act gac acc atc att gcc	432
Cys His Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asp Thr Ile Ile Ala	
130 135 140	
cac ata ggg gtg gca gct gta gtg cga ggc tcc ctg ctc atg ctc cca	480
His Ile Gly Val Ala Ala Val Val Arg Gly Ser Leu Leu Met Leu Pro	
145 150 155 160	
tgt ccc ttc ctt att ggg cgt ttg aac ttc tgc caa agc cat gtg atc	528
Cys Pro Phe Leu Ile Gly Arg Leu Asn Phe Cys Gln Ser His Val Ile	
165 170 175	
cta cac acg tac tgt gag cac atg gct gtg gtg aag ctg gcc tgt gga	576
Leu His Thr Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Gly	
180 185 190	
gac acc agg cct aac cgt gtg tat ggg ctg aca gct gca ctg ttg gtc	624
Asp Thr Arg Pro Asn Arg Val Tyr Gly Leu Thr Ala Ala Leu Leu Val	
195 200 205	
att ggg gtt gac ttg ttt tgc att ggt ctc tcc tat gcc cta agt gca	672
Ile Gly Val Asp Leu Phe Cys Ile Gly Leu Ser Tyr Ala Leu Ser Ala	
210 215 220	

caa gct gtc ctt cgc ctc tca tcc cat gaa gct cgg tcc aag gcc cta 720  
 Gln Ala Val Leu Arg Leu Ser Ser His Glu Ala Arg Ser Lys Ala Leu  
 225 230 235 240  
 ggg acc tgt ggt tcc cat gtc tgt gtc atc ctc atc tct tat aca cca 768  
 Gly Thr Cys Gly Ser His Val Cys Val Ile Leu Ile Ser Tyr Thr Pro  
 245 250 255  
 gcc ctc ttc tcc ttt ttt aca cac cgc ttt ggc cat cac gtt cca gtc 816  
 Ala Leu Phe Ser Phe Phe Thr His Arg Phe Gly His His Val Pro Val  
 260 265 270  
 cat att cac att ctt ttg gcc aat gtt tat ctg ctt ttg cca cct gct 864  
 His Ile His Ile Leu Leu Ala Asn Val Tyr Leu Leu Leu Pro Pro Ala  
 275 280 285  
 ctt aat cct gtg gta tat gga gtt aag acc aaa cag atc cgt aaa aga 912  
 Leu Asn Pro Val Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Lys Arg  
 290 295 300  
 gtt gtc agg gtg ttt caa agt ggg cag gga atg ggc atc aag gca tct 960  
 Val Val Arg Val Phe Gln Ser Gly Gln Gly Met Gly Ile Lys Ala Ser  
 305 310 315 320  
 gag tga 966  
 Glu

<210> 424  
 <211> 321  
 <212> PRT  
 <213> Homo Sapiens

<400> 424

Met Glu Ser Pro Asn His Thr Asp Val Asp Pro Ser Val Phe Phe Leu  
1 5 10 15

Leu Gly Ile Pro Gly Leu Glu Gln Phe His Leu Trp Leu Ser Leu Pro  
20 25 30

Val Cys Gly Leu Gly Thr Ala Thr Ile Val Gly Asn Ile Thr Ile Leu  
35 40 45

Val Val Val Ala Thr Glu Pro Val Leu His Lys Pro Val Tyr Leu Phe  
50 55 60

Leu Cys Met Leu Ser Thr Ile Asp Leu Ala Ala Ser Val Ser Thr Val  
65 70 75 80

Pro Lys Leu Leu Ala Ile Phe Trp Cys Gly Ala Gly His Ile Ser Ala  
85 90 95

Ser Ala Cys Leu Ala Gln Met Phe Phe Ile His Ala Phe Cys Met Met

100	105	110
Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile		
115	120	125
Cys His Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asp Thr Ile Ile Ala		
130	135	140
His Ile Gly Val Ala Ala Val Val Arg Gly Ser Leu Leu Met Leu Pro		
145	150	155
Cys Pro Phe Leu Ile Gly Arg Leu Asn Phe Cys Gln Ser His Val Ile		
165	170	175
Leu His Thr Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Gly		
180	185	190
Asp Thr Arg Pro Asn Arg Val Tyr Gly Leu Thr Ala Ala Leu Leu Val		
195	200	205
Ile Gly Val Asp Leu Phe Cys Ile Gly Leu Ser Tyr Ala Leu Ser Ala		
210	215	220
Gln Ala Val Leu Arg Leu Ser Ser His Glu Ala Arg Ser Lys Ala Leu		
225	230	235
Gly Thr Cys Gly Ser His Val Cys Val Ile Leu Ile Ser Tyr Thr Pro		
245	250	255
Ala Leu Phe Ser Phe Phe Thr His Arg Phe Gly His His Val Pro Val		
260	265	270
His Ile His Ile Leu Leu Ala Asn Val Tyr Leu Leu Leu Pro Pro Ala		
275	280	285
Leu Asn Pro Val Val Tyr Gly Val Lys Thr Lys Gln Ile Arg Lys Arg		
290	295	300
Val Val Arg Val Phe Gln Ser Gly Gln Gly Met Gly Ile Lys Ala Ser		
305	310	315
320		
Glu		
<210>	425	
<211>	975	

&lt;212&gt; DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (972)

&lt;223&gt;

&lt;400&gt; 425

atg	aat	cat	atg	tct	gca	tct	ctc	aaa	atc	tcc	aat	agc	tcc	aaa	ttc	48
Met	Asn	His	Met	Ser	Ala	Ser	Leu	Lys	Ile	Ser	Asn	Ser	Ser	Lys	Phe	
1				5					10					15		

cag	gtc	tct	gag	ttc	atc	ctg	ctg	gga	ttc	ccg	ggc	att	cac	agc	tgg	96
Gln	Val	Ser	Glu	Phe	Ile	Leu	Leu	Gly	Phe	Pro	Gly	Ile	His	Ser	Trp	
			20					25					30			

caa	cac	tgg	cta	tct	ctg	ccc	ctg	gca	cta	ctg	tat	ctc	tca	gca	ctt	144
Gln	His	Trp	Leu	Ser	Leu	Pro	Leu	Ala	Leu	Leu	Tyr	Leu	Ser	Ala	Leu	
		35					40					45				

gct	gca	aac	acc	ctc	atc	ctc	atc	atc	atc	tgg	cag	aac	cct	tct	tta	192
Ala	Ala	Asn	Thr	Leu	Ile	Leu	Ile	Ile	Ile	Trp	Gln	Asn	Pro	Ser	Leu	
	50					55					60					

cag	cag	ccc	atg	tat	att	ttc	ctt	ggc	atc	ctc	tgt	atg	gta	gac	atg	240
Gln	Gln	Pro	Met	Tyr	Ile	Phe	Leu	Gly	Ile	Leu	Cys	Met	Val	Asp	Met	
65					70				75						80	

ggc	ctg	gcc	act	act	atc	atc	cct	aag	atc	ctg	gcc	atc	ttc	tgg	ttt	288
Gly	Leu	Ala	Thr	Thr	Ile	Ile	Pro	Lys	Ile	Leu	Ala	Ile	Phe	Trp	Phe	
			85					90						95		

gat	gcc	aag	gtt	att	agc	ctc	cct	gag	tgc	ttt	gct	cag	att	tat	gcc	336
Asp	Ala	Lys	Val	Ile	Ser	Leu	Pro	Glu	Cys	Phe	Ala	Gln	Ile	Tyr	Ala	
			100					105						110		

att	cac	ttc	ttt	gtg	ggc	atg	gag	tct	ggc	atc	cta	ctc	tgc	atg	gct	384
Ile	His	Phe	Phe	Val	Gly	Met	Glu	Ser	Gly	Ile	Leu	Leu	Cys	Met	Ala	
		115					120						125			

ttt	gat	aga	tat	gtg	gct	att	tgt	cac	cct	ctt	cgc	tat	cca	tca	att	432
Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	Pro	Leu	Arg	Tyr	Pro	Ser	Ile	
	130					135					140					

gtc	acc	agt	tcc	tta	atc	tta	aaa	gct	acc	ctg	ttc	atg	gtg	ctg	aga	480
Val	Thr	Ser	Ser	Leu	Ile	Leu	Lys	Ala	Thr	Leu	Phe	Met	Val	Leu	Arg	
145					150					155				160		

aat	ggc	tta	ttt	gtc	act	cca	gtg	cct	gtg	ctt	gca	gca	cag	cgt	gat	528
Asn	Gly	Leu	Phe	Val	Thr	Pro	Val	Pro	Val	Leu	Ala	Ala	Gln	Arg	Asp	
				165					170					175		

tat	tgc	tcc	aag	aat	gaa	att	gaa	cac	tgc	ctg	tgc	tct	aac	ctt	ggg	576
Tyr	Cys	Ser	Lys	Asn	Glu	Ile	Glu	His	Cys	Leu	Cys	Ser	Asn	Leu	Gly	
			180					185					190			

gtc	aca	agc	ctg	gct	tgt	gat	gac	agg	agg	cca	aac	agc	att	tgc	cag	624
Val	Thr	Ser	Leu	Ala	Cys	Asp	Asp	Arg	Arg	Pro	Asn	Ser	Ile	Cys	Gln	
			195				200							205		

ttg gtt ctg gca tgg ctt gga atg ggg agt gat cta agt ctt att ata 672  
 Leu Val Leu Ala Trp Leu Gly Met Gly Ser Asp Leu Ser Leu Ile Ile  
 210 215 220  
 ctg tca tat att ttg att ctg tac tct gta ctt aga ctg aac tca gct 720  
 Leu Ser Tyr Ile Leu Ile Leu Tyr Ser Val Leu Arg Leu Asn Ser Ala  
 225 230 235 240  
 gaa gct gca gcc aag gcc ctg agc act tgt agt tca cat ctc acc ctc 768  
 Glu Ala Ala Ala Lys Ala Leu Ser Thr Cys Ser Ser His Leu Thr Leu  
 245 250 255  
 atc ctt ttc ttt tac act att gtt gta gtg att tca gtg act cat ctg 816  
 Ile Leu Phe Phe Tyr Thr Ile Val Val Val Ile Ser Val Thr His Leu  
 260 265 270  
 aca gag atg aag gct act ttg att cca gtt cta ctt aat gtg ttg cac 864  
 Thr Glu Met Lys Ala Thr Leu Ile Pro Val Leu Leu Asn Val Leu His  
 275 280 285  
 aac atc atc ccc cct tcc ctc aac cct aca gtt tat gca ctt cag acc 912  
 Asn Ile Ile Pro Pro Ser Leu Asn Pro Thr Val Tyr Ala Leu Gln Thr  
 290 295 300  
 aaa gaa ctt agg gca gcc ttc caa aag gtg ctg ttt gcc ctt aca aaa 960  
 Lys Glu Leu Arg Ala Ala Phe Gln Lys Val Leu Phe Ala Leu Thr Lys  
 305 310 315 320  
 gaa ata aga tct tag 975  
 Glu Ile Arg Ser

<210> 426  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 426

Met Asn His Met Ser Ala Ser Leu Lys Ile Ser Asn Ser Ser Lys Phe  
 1 5 10 15  
 Gln Val Ser Glu Phe Ile Leu Leu Gly Phe Pro Gly Ile His Ser Trp  
 20 25 30  
 Gln His Trp Leu Ser Leu Pro Leu Ala Leu Leu Tyr Leu Ser Ala Leu  
 35 40 45  
 Ala Ala Asn Thr Leu Ile Leu Ile Ile Ile Trp Gln Asn Pro Ser Leu  
 50 55 60  
 Gln Gln Pro Met Tyr Ile Phe Leu Gly Ile Leu Cys Met Val Asp Met  
 65 70 75 80



Gly Leu Ala Thr Thr Ile Ile Pro Lys Ile Leu Ala Ile Phe Trp Phe  
85 90 95

Asp Ala Lys Val Ile Ser Leu Pro Glu Cys Phe Ala Gln Ile Tyr Ala  
100 105 110

Ile His Phe Phe Val Gly Met Glu Ser Gly Ile Leu Leu Cys Met Ala  
115 120 125

Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Ser Ile  
130 135 140

Val Thr Ser Ser Leu Ile Leu Lys Ala Thr Leu Phe Met Val Leu Arg  
145 150 155 160

Asn Gly Leu Phe Val Thr Pro Val Pro Val Leu Ala Ala Gln Arg Asp  
165 170 175

Tyr Cys Ser Lys Asn Glu Ile Glu His Cys Leu Cys Ser Asn Leu Gly  
180 185 190

Val Thr Ser Leu Ala Cys Asp Asp Arg Arg Pro Asn Ser Ile Cys Gln  
195 200 205

Leu Val Leu Ala Trp Leu Gly Met Gly Ser Asp Leu Ser Leu Ile Ile  
210 215 220

Leu Ser Tyr Ile Leu Ile Leu Tyr Ser Val Leu Arg Leu Asn Ser Ala  
225 230 235 240

Glu Ala Ala Ala Lys Ala Leu Ser Thr Cys Ser Ser His Leu Thr Leu  
245 250 255

Ile Leu Phe Phe Tyr Thr Ile Val Val Val Ile Ser Val Thr His Leu  
260 265 270

Thr Glu Met Lys Ala Thr Leu Ile Pro Val Leu Leu Asn Val Leu His  
275 280 285

Asn Ile Ile Pro Pro Ser Leu Asn Pro Thr Val Tyr Ala Leu Gln Thr  
290 295 300

Lys Glu Leu Arg Ala Ala Phe Gln Lys Val Leu Phe Ala Leu Thr Lys  
305 310 315 320

Glu Ile Arg Ser

<210> 427  
 <211> 900  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(897)  
 <223>

<400> 427  
 atg gga ttc cct ggc att cac agt tgg cag cac tgg ctc tcc ctg ccc 48  
 Met Gly Phe Pro Gly Ile His Ser Trp Gln His Trp Leu Ser Leu Pro  
 1 5 10 15  
 ctg gct ctg ctc tac ctc tta gct ctc agt gcc aac atc ctt atc ctg 96  
 Leu Ala Leu Leu Tyr Leu Leu Ala Leu Ser Ala Asn Ile Leu Ile Leu  
 20 25 30  
 atc atc atc aac aaa gag gca gca ctg cac cag cct atg tac tat ttc 144  
 Ile Ile Ile Asn Lys Glu Ala Ala Leu His Gln Pro Met Tyr Tyr Phe  
 35 40 45  
 ctg ggc atc ttg gct atg gca gac ata ggc ctg gct acc acc atc atg 192  
 Leu Gly Ile Leu Ala Met Ala Asp Ile Gly Leu Ala Thr Thr Ile Met  
 50 55 60  
 cct aag att ttg gcc atc tta tgg ttc aat gct aag acc atc agt ctc 240  
 Pro Lys Ile Leu Ala Ile Leu Trp Phe Asn Ala Lys Thr Ile Ser Leu  
 65 70 75 80  
 ctg gag tgc ttt gct cag atg tat gcc ata cat tgc ttt gtg gcc atg 288  
 Leu Glu Cys Phe Ala Gln Met Tyr Ala Ile His Cys Phe Val Ala Met  
 85 90 95  
 gaa tca agt acc ttt gtc tgc atg gct att gat aga tat gta gcc att 336  
 Glu Ser Ser Thr Phe Val Cys Met Ala Ile Asp Arg Tyr Val Ala Ile  
 100 105 110  
 tgt cga ccg cta cga tat cca tca atc atc act gaa tct ttt gtt ttc 384  
 Cys Arg Pro Leu Arg Tyr Pro Ser Ile Ile Thr Glu Ser Phe Val Phe  
 115 120 125  
 aaa gca aat ggg ttc atg gca ctg aga aac agc ctg tgt ctc atc tca 432  
 Lys Ala Asn Gly Phe Met Ala Leu Arg Asn Ser Leu Cys Leu Ile Ser  
 130 135 140  
 gtg cct ctg ttg gct gcc cag agg cat tac tgc tcc cag aat caa att 480  
 Val Pro Leu Leu Ala Ala Gln Arg His Tyr Cys Ser Gln Asn Gln Ile  
 145 150 155 160  
 gag cac tgt ctt tgt tct aac ctt gga gtc act agc cta tct tgt gat 528  
 Glu His Cys Leu Cys Ser Asn Leu Gly Val Thr Ser Leu Ser Cys Asp  
 165 170 175  
 gat cga aga atc aat agc att aac cag gtc ctt ttg gct tgg aca ctc 576  
 Asp Arg Arg Ile Asn Ser Ile Asn Gln Val Leu Leu Ala Trp Thr Leu

180										185					190						
atg gga agt gac ctg ggt ttg att att tta tca tat gct cta ata ctt																					624
Met Gly Ser Asp Leu Gly Leu Ile Ile Leu Ser Tyr Ala Leu Ile Leu																					
195											200					205					
tac tct gtc ctg aag ctg aac tct cca gaa gct gca tcc aag gcc tta																					672
Tyr Ser Val Leu Lys Leu Asn Ser Pro Glu Ala Ala Ser Lys Ala Leu																					
210											215					220					
agt acc tgc acc tcc cac ctc atc tta atc ctt ttc ttc tac aca gtc																					720
Ser Thr Cys Thr Ser His Leu Ile Leu Ile Leu Phe Phe Tyr Thr Val																					
225											230					235					240
atc att gtg att tcc att act cgt agt aca gga atg aga gtt ccc ctt																					768
Ile Ile Val Ile Ser Ile Thr Arg Ser Thr Gly Met Arg Val Pro Leu																					
	245										250					255					
att cca gtt cta ctt aat gtg cta cac aat gtc att ccc cct gcc ctg																					816
Ile Pro Val Leu Leu Asn Val Leu His Asn Val Ile Pro Pro Ala Leu																					
	260										265					270					
aac ccc atg gta tat gca ctc aag aac aag gaa ctc agg caa ggc tta																					864
Asn Pro Met Val Tyr Ala Leu Lys Asn Lys Glu Leu Arg Gln Gly Leu																					
275											280					285					
tac aag gta ctt aga ctg gga gtg aag ggc acc tga																					900
Tyr Lys Val Leu Arg Leu Gly Val Lys Gly Thr																					
290											295										

&lt;210&gt; 428

&lt;211&gt; 299

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 428

Met Gly Phe Pro Gly Ile His Ser Trp Gln His Trp Leu Ser Leu Pro														
1			5					10					15	

Leu Ala Leu Leu Tyr Leu Leu Ala Leu Ser Ala Asn Ile Leu Ile Leu														
		20					25						30	

Ile Ile Ile Asn Lys Glu Ala Ala Leu His Gln Pro Met Tyr Tyr Phe														
	35					40						45		

Leu Gly Ile Leu Ala Met Ala Asp Ile Gly Leu Ala Thr Thr Ile Met														
	50					55					60			

Pro Lys Ile Leu Ala Ile Leu Trp Phe Asn Ala Lys Thr Ile Ser Leu														
65					70				75				80	

Leu Glu Cys Phe Ala Gln Met Tyr Ala Ile His Cys Phe Val Ala Met														
				85					90				95	

Glu Ser Ser Thr Phe Val Cys Met Ala Ile Asp Arg Tyr Val Ala Ile  
 100 105 110

Cys Arg Pro Leu Arg Tyr Pro Ser Ile Ile Thr Glu Ser Phe Val Phe  
 115 120 125

Lys Ala Asn Gly Phe Met Ala Leu Arg Asn Ser Leu Cys Leu Ile Ser  
 130 135 140

Val Pro Leu Leu Ala Ala Gln Arg His Tyr Cys Ser Gln Asn Gln Ile  
 145 150 155 160

Glu His Cys Leu Cys Ser Asn Leu Gly Val Thr Ser Leu Ser Cys Asp  
 165 170 175

Asp Arg Arg Ile Asn Ser Ile Asn Gln Val Leu Leu Ala Trp Thr Leu  
 180 185 190

Met Gly Ser Asp Leu Gly Leu Ile Ile Leu Ser Tyr Ala Leu Ile Leu  
 195 200 205

Tyr Ser Val Leu Lys Leu Asn Ser Pro Glu Ala Ala Ser Lys Ala Leu  
 210 215 220

Ser Thr Cys Thr Ser His Leu Ile Leu Ile Leu Phe Phe Tyr Thr Val  
 225 230 235 240

Ile Ile Val Ile Ser Ile Thr Arg Ser Thr Gly Met Arg Val Pro Leu  
 245 250 255

Ile Pro Val Leu Leu Asn Val Leu His Asn Val Ile Pro Pro Ala Leu  
 260 265 270

Asn Pro Met Val Tyr Ala Leu Lys Asn Lys Glu Leu Arg Gln Gly Leu  
 275 280 285

Tyr Lys Val Leu Arg Leu Gly Val Lys Gly Thr  
 290 295

<210> 429  
 <211> 978  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (975)

&lt;223&gt;

&lt;400&gt; 429

atg ttc ctt ccc aat gac acc cag ttt cac ccc tcc tcc ttc ctg ttg	48
Met Phe Leu Pro Asn Asp Thr Gln Phe His Pro Ser Ser Phe Leu Leu	
1 5 10 15	
ctg ggg atc cca gga cta gaa aca ctt cac atc tgg atc ggc ttt ccc	96
Leu Gly Ile Pro Gly Leu Glu Thr Leu His Ile Trp Ile Gly Phe Pro	
20 25 30	
ttc tgt gct gtg tac atg atc gca ctc ata ggg aac ttc act att cta	144
Phe Cys Ala Val Tyr Met Ile Ala Leu Ile Gly Asn Phe Thr Ile Leu	
35 40 45	
ctt gtg atc aag act gac agc agc cta cac cag ccc atg ttc tac ttc	192
Leu Val Ile Lys Thr Asp Ser Ser Leu His Gln Pro Met Phe Tyr Phe	
50 55 60	
ctg gcc atg ttg gcc acc act gat gtg ggt ctc tca aca gct acc atc	240
Leu Ala Met Leu Ala Thr Thr Asp Val Gly Leu Ser Thr Ala Thr Ile	
65 70 75 80	
cct aag atg ctt gga atc ttc tgg atc aac ctc aga ggg atc atc ttt	288
Pro Lys Met Leu Gly Ile Phe Trp Ile Asn Leu Arg Gly Ile Ile Phe	
85 90 95	
gaa gcc tgc ctc acc cag atg ttt ttt atc cac aac ttc aca ctt atg	336
Glu Ala Cys Leu Thr Gln Met Phe Phe Ile His Asn Phe Thr Leu Met	
100 105 110	
gag tca gca gtc ctt gtg gca atg gct tat gac agc tat gtg gcc atc	384
Glu Ser Ala Val Leu Val Ala Met Ala Tyr Asp Ser Tyr Val Ala Ile	
115 120 125	
tgc aat cca ctc caa tat agc gcc atc ctc acc aac aag gtt gtt tct	432
Cys Asn Pro Leu Gln Tyr Ser Ala Ile Leu Thr Asn Lys Val Val Ser	
130 135 140	
gtg att ggt ctt ggt gtg ttt gtg agg gct tta att ttc gtc att ccc	480
Val Ile Gly Leu Gly Val Phe Val Arg Ala Leu Ile Phe Val Ile Pro	
145 150 155 160	
tct ata ctt ctt ata ttg cgg ttg ccc ttc tgt ggg aat cat gta att	528
Ser Ile Leu Leu Ile Leu Arg Leu Pro Phe Cys Gly Asn His Val Ile	
165 170 175	
ccc cac acc tac tgt gag cac atg ggt ctt gct cat cta tct tgt gcc	576
Pro His Thr Tyr Cys Glu His Met Gly Leu Ala His Leu Ser Cys Ala	
180 185 190	
agc atc aaa atc aat att att tat ggt tta tgt gcc att tgt aat ctg	624
Ser Ile Lys Ile Asn Ile Ile Tyr Gly Leu Cys Ala Ile Cys Asn Leu	
195 200 205	
gtg ttt gac atc aca gtc att gcc ctc tct tat gtg cat att ctt tgt	672
Val Phe Asp Ile Thr Val Ile Ala Leu Ser Tyr Val His Ile Leu Cys	
210 215 220	
gct gtt ttc cgt ctt cct act cat gag ccc cga ctc aag tcc ctc agc	720

Ala Val Phe Arg Leu Pro Thr His Glu Pro Arg Leu Lys Ser Leu Ser  
 225 230 235 240

aca tgt ggt tca cat gtg tgt gta atc ctt gcc ttc tat aca cca gcc 768  
 Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Tyr Thr Pro Ala  
 245 250 255

ctc ttt tcc ttt atg act cat tgc ttt ggc cga aat gtg ccc cgc tat 816  
 Leu Phe Ser Phe Met Thr His Cys Phe Gly Arg Asn Val Pro Arg Tyr  
 260 265 270

atc cat ata ctc cta gcc aat ctc tat gtt gtg gtg cca cca atg ctc 864  
 Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Met Leu  
 275 280 285

aat cct gtc ata tat gga gtc aga acc aag cag atc tat aaa tgt gta 912  
 Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Tyr Lys Cys Val  
 290 295 300

aag aaa ata tta ttg cag gaa caa gga atg gaa aag gaa gag tac cta 960  
 Lys Lys Ile Leu Leu Gln Glu Gln Gly Met Glu Lys Glu Glu Tyr Leu  
 305 310 315 320

ata cat acg agg ttc tga 978  
 Ile His Thr Arg Phe  
 325

<210> 430  
 <211> 325  
 <212> PRT  
 <213> Homo Sapiens

<400> 430

Met Phe Leu Pro Asn Asp Thr Gln Phe His Pro Ser Ser Phe Leu Leu  
 1 5 10 15

Leu Gly Ile Pro Gly Leu Glu Thr Leu His Ile Trp Ile Gly Phe Pro  
 20 25 30

Phe Cys Ala Val Tyr Met Ile Ala Leu Ile Gly Asn Phe Thr Ile Leu  
 35 40 45

Leu Val Ile Lys Thr Asp Ser Ser Leu His Gln Pro Met Phe Tyr Phe  
 50 55 60

Leu Ala Met Leu Ala Thr Thr Asp Val Gly Leu Ser Thr Ala Thr Ile  
 65 70 75 80

Pro Lys Met Leu Gly Ile Phe Trp Ile Asn Leu Arg Gly Ile Ile Phe  
 85 90 95

Glu Ala Cys Leu Thr Gln Met Phe Phe Ile His Asn Phe Thr Leu Met  
 100 105 110

Glu Ser Ala Val Leu Val Ala Met Ala Tyr Asp Ser Tyr Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Gln Tyr Ser Ala Ile Leu Thr Asn Lys Val Val Ser  
 130 135 140

Val Ile Gly Leu Gly Val Phe Val Arg Ala Leu Ile Phe Val Ile Pro  
 145 150 155 160

Ser Ile Leu Leu Ile Leu Arg Leu Pro Phe Cys Gly Asn His Val Ile  
 165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Leu Ala His Leu Ser Cys Ala  
 180 185 190

Ser Ile Lys Ile Asn Ile Ile Tyr Gly Leu Cys Ala Ile Cys Asn Leu  
 195 200 205

Val Phe Asp Ile Thr Val Ile Ala Leu Ser Tyr Val His Ile Leu Cys  
 210 215 220

Ala Val Phe Arg Leu Pro Thr His Glu Pro Arg Leu Lys Ser Leu Ser  
 225 230 235 240

Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Tyr Thr Pro Ala  
 245 250 255

Leu Phe Ser Phe Met Thr His Cys Phe Gly Arg Asn Val Pro Arg Tyr  
 260 265 270

Ile His Ile Leu Leu Ala Asn Leu Tyr Val Val Val Pro Pro Met Leu  
 275 280 285

Asn Pro Val Ile Tyr Gly Val Arg Thr Lys Gln Ile Tyr Lys Cys Val  
 290 295 300

Lys Lys Ile Leu Leu Gln Glu Gln Gly Met Glu Lys Glu Glu Tyr Leu  
 305 310 315 320

Ile His Thr Arg Phe  
 325

<210> 431

<211> 927

<212> DNA

&lt;213&gt; Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (924)

&lt;223&gt;

&lt;400&gt; 431

atg	aat	acc	act	cta	ttt	cat	cct	tac	tct	ttc	ctt	ctt	ctg	gga	att	48
Met	Asn	Thr	Thr	Leu	Phe	His	Pro	Tyr	Ser	Phe	Leu	Leu	Leu	Gly	Ile	
1				5					10					15		
cct	ggg	ctg	gaa	agt	atg	cat	ctc	tgg	ggt	ggt	ttt	cct	ttc	ttt	gct	96
Pro	Gly	Leu	Glu	Ser	Met	His	Leu	Trp	Val	Gly	Phe	Pro	Phe	Phe	Ala	
			20					25					30			
gtg	ttc	ctg	aca	gct	gtc	ctt	ggg	aat	atc	acc	atc	ctt	ttt	gtg	att	144
Val	Phe	Leu	Thr	Ala	Val	Leu	Gly	Asn	Ile	Thr	Ile	Leu	Phe	Val	Ile	
		35					40					45				
cag	act	gac	agt	agt	ctc	cat	cat	ccc	atg	ttc	tac	ttc	ctg	gcc	att	192
Gln	Thr	Asp	Ser	Ser	Leu	His	His	Pro	Met	Phe	Tyr	Phe	Leu	Ala	Ile	
	50					55					60					
ctg	tca	tct	att	gac	ccg	ggc	ctg	tct	aca	tcc	acc	atc	cct	aaa	atg	240
Leu	Ser	Ser	Ile	Asp	Pro	Gly	Leu	Ser	Thr	Ser	Thr	Ile	Pro	Lys	Met	
65					70				75						80	
ctt	ggc	acc	ttc	tgg	ttt	acc	ctg	aga	gaa	atc	tcc	ttt	gaa	gga	tgc	288
Leu	Gly	Thr	Phe	Trp	Phe	Thr	Leu	Arg	Glu	Ile	Ser	Phe	Glu	Gly	Cys	
				85				90					95			
ctt	acc	cag	atg	ttc	ttc	atc	cac	ctg	tgc	act	ggc	atg	gaa	tca	gct	336
Leu	Thr	Gln	Met	Phe	Phe	Ile	His	Leu	Cys	Thr	Gly	Met	Glu	Ser	Ala	
			100					105					110			
gtg	ctt	gtg	gcc	atg	gcc	tat	gat	tgc	tat	gtg	gcc	atc	tgt	gac	cct	384
Val	Leu	Val	Ala	Met	Ala	Tyr	Asp	Cys	Tyr	Val	Ala	Ile	Cys	Asp	Pro	
		115					120					125				
ctt	tgc	tac	acg	ttg	gtg	ctg	aca	aac	aag	gtg	gtg	tca	ggt	atg	gca	432
Leu	Cys	Tyr	Thr	Leu	Val	Leu	Thr	Asn	Lys	Val	Val	Ser	Val	Met	Ala	
	130					135					140					
ctg	gcc	atc	ttt	ctg	aga	ccc	tta	gtc	ttt	gtc	ata	ccc	ttt	gtt	cta	480
Leu	Ala	Ile	Phe	Leu	Arg	Pro	Leu	Val	Phe	Val	Ile	Pro	Phe	Val	Leu	
145					150					155					160	
ttt	atc	cta	agg	ctt	cca	ttt	tgt	gga	cac	caa	att	att	cct	cat	act	528
Phe	Ile	Leu	Arg	Leu	Pro	Phe	Cys	Gly	His	Gln	Ile	Ile	Pro	His	Thr	
				165				170						175		
tat	ggt	gag	cac	atg	ggc	att	gcc	cgc	ctg	tct	tgt	gcc	agc	atc	agg	576
Tyr	Gly	Glu	His	Met	Gly	Ile	Ala	Arg	Leu	Ser	Cys	Ala	Ser	Ile	Arg	
			180					185					190			
gtt	aac	atc	atc	tat	ggc	tta	tgt	gcc	atc	tct	atc	ctg	gtc	ttt	gac	624
Val	Asn	Ile	Ile	Tyr	Gly	Leu	Cys	Ala	Ile	Ser	Ile	Leu	Val	Phe	Asp	
		195					200						205			



atc ata gca att gtc att tcc tat gta cag atc ctt tgt gct gta ttt 672  
 ile ile ala ile val ile ser tyr val gln ile leu cys ala val phe  
 210 215 220  
 cta ctc tct tca cat gat gca cga ctc aag gca ttc agc acc tgt ggc 720  
 leu leu ser ser his asp ala arg leu lys ala phe ser thr cys gly  
 225 230 235 240  
 tct cat gtg tgt gtc atg ttg act ttc tat atg cct gca ttt ttc tca 768  
 ser his val cys val met leu thr phe tyr met pro ala phe phe ser  
 245 250 255  
 ttc atg acc cat agg ttt ggt cgg aat ata cct cac ttt atc cac att 816  
 phe met thr his arg phe gly arg asn ile pro his phe ile his ile  
 260 265 270  
 ctt ctg gct aat ttc tat gta gtc att cca cct gct ctc aac tct gta 864  
 leu leu ala asn phe tyr val val ile pro pro ala leu asn ser val  
 275 280 285  
 att tat ggt gtc aga acc aaa cag att aga gca caa gtg ctg aaa atg 912  
 ile tyr gly val arg thr lys gln ile arg ala gln val leu lys met  
 290 295 300  
 ttt ttc aat aaa taa 927  
 phe phe asn lys  
 305

<210> 432  
 <211> 308  
 <212> PRT  
 <213> Homo Sapiens

<400> 432

Met Asn Thr Thr Leu Phe His Pro Tyr Ser Phe Leu Leu Leu Gly Ile  
 1 5 10 15  
 Pro Gly Leu Glu Ser Met His Leu Trp Val Gly Phe Pro Phe Phe Ala  
 20 25 30  
 Val Phe Leu Thr Ala Val Leu Gly Asn Ile Thr Ile Leu Phe Val Ile  
 35 40 45  
 Gln Thr Asp Ser Ser Leu His His Pro Met Phe Tyr Phe Leu Ala Ile  
 50 55 60  
 Leu Ser Ser Ile Asp Pro Gly Leu Ser Thr Ser Thr Ile Pro Lys Met  
 65 70 75 80  
 Leu Gly Thr Phe Trp Phe Thr Leu Arg Glu Ile Ser Phe Glu Gly Cys  
 85 90 95  
 Leu Thr Gln Met Phe Phe Ile His Leu Cys Thr Gly Met Glu Ser Ala

100	105	110
Val Leu Val Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Asp Pro		
115	120	125
Leu Cys Tyr Thr Leu Val Leu Thr Asn Lys Val Val Ser Val Met Ala		
130	135	140
Leu Ala Ile Phe Leu Arg Pro Leu Val Phe Val Ile Pro Phe Val Leu		
145	150	155
Phe Ile Leu Arg Leu Pro Phe Cys Gly His Gln Ile Ile Pro His Thr		
165	170	175
Tyr Gly Glu His Met Gly Ile Ala Arg Leu Ser Cys Ala Ser Ile Arg		
180	185	190
Val Asn Ile Ile Tyr Gly Leu Cys Ala Ile Ser Ile Leu Val Phe Asp		
195	200	205
Ile Ile Ala Ile Val Ile Ser Tyr Val Gln Ile Leu Cys Ala Val Phe		
210	215	220
Leu Leu Ser Ser His Asp Ala Arg Leu Lys Ala Phe Ser Thr Cys Gly		
225	230	235
Ser His Val Cys Val Met Leu Thr Phe Tyr Met Pro Ala Phe Phe Ser		
245	250	255
Phe Met Thr His Arg Phe Gly Arg Asn Ile Pro His Phe Ile His Ile		
260	265	270
Leu Leu Ala Asn Phe Tyr Val Val Ile Pro Pro Ala Leu Asn Ser Val		
275	280	285
Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Ala Gln Val Leu Lys Met		
290	295	300
Phe Phe Asn Lys		
305		

<210> 433  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>

<221> CDS  
 <222> (1)..(933)  
 <223>

<400> 433  
 atg ttt tat cac aac aag agc ata ttt cac cca gtc aca ttt ttc ctc 48  
 Met Phe Tyr His Asn Lys Ser Ile Phe His Pro Val Thr Phe Phe Leu  
 1 5 10 15  
 att gga atc cca ggt ctg gaa gac ttc cac atg tgg atc tcc ggg cct 96  
 Ile Gly Ile Pro Gly Leu Glu Asp Phe His Met Trp Ile Ser Gly Pro  
 20 25 30  
 ttc tgc tct gtt tac ctt gtg gct ttg ctg ggc aat gcc acc att ctg 144  
 Phe Cys Ser Val Tyr Leu Val Ala Leu Leu Gly Asn Ala Thr Ile Leu  
 35 40 45  
 cta gtc atc aag gta gaa cag act ctc cgg gag ccc atg ttc tac ttc 192  
 Leu Val Ile Lys Val Glu Gln Thr Leu Arg Glu Pro Met Phe Tyr Phe  
 50 55 60  
 ctg gcc att ctt tcc act att gat ttg gcc ctt tct gca acc tct gtg 240  
 Leu Ala Ile Leu Ser Thr Ile Asp Leu Ala Leu Ser Ala Thr Ser Val  
 65 70 75 80  
 cct cgc atg ctg ggt atc ttc tgg ttt gat gct cac gag att aac tat 288  
 Pro Arg Met Leu Gly Ile Phe Trp Phe Asp Ala His Glu Ile Asn Tyr  
 85 90 95  
 gga gct tgt gtg gcc cag atg ttt ctg atc cat gcc ttc act ggc atg 336  
 Gly Ala Cys Val Ala Gln Met Phe Leu Ile His Ala Phe Thr Gly Met  
 100 105 110  
 gag gct gag gtc tta ctg gct atg gct ttt gac cgt tat gtg gcc atc 384  
 Glu Ala Glu Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile  
 115 120 125  
 tgt gct cca cta cat tac gca acc atc ttg aca tcc cta gtg ttg gtg 432  
 Cys Ala Pro Leu His Tyr Ala Thr Ile Leu Thr Ser Leu Val Leu Val  
 130 135 140  
 ggc att agc atg tgc att gta att cgt ccc gtt tta ctt aca ctt ccc 480  
 Gly Ile Ser Met Cys Ile Val Ile Arg Pro Val Leu Leu Thr Leu Pro  
 145 150 155 160  
 atg gtc tat ctt atc tac cgc cta ccc ttt tgt cag gct cac ata ata 528  
 Met Val Tyr Leu Ile Tyr Arg Leu Pro Phe Cys Gln Ala His Ile Ile  
 165 170 175  
 gcc cat tcc tac tgt gag cac atg ggc att gca aaa ttg tcc tgt gga 576  
 Ala His Ser Tyr Cys Glu His Met Gly Ile Ala Lys Leu Ser Cys Gly  
 180 185 190  
 aac att cgt atc aat ggt atc tat ggg ctt ttt gta gtt tct ttc ttt 624  
 Asn Ile Arg Ile Asn Gly Ile Tyr Gly Leu Phe Val Val Ser Phe Phe  
 195 200 205  
 gtt ctg aac ctg gtg ctc att ggc atc tcg tat gtt tac att ctc cgt 672  
 Val Leu Asn Leu Val Leu Ile Gly Ile Ser Tyr Val Tyr Ile Leu Arg  
 210 215 220

gct gtc ttc cgc ctc cca tca cat gat gct cag cta aaa gcc cta agc 720  
 Ala Val Phe Arg Leu Pro Ser His Asp Ala Gln Leu Lys Ala Leu Ser  
 225 230 235 240

acg tgt ggc gct cat gtt gga gtc atc tgt gtt ttc tat atc cct tca 768  
 Thr Cys Gly Ala His Val Gly Val Ile Cys Val Phe Tyr Ile Pro Ser  
 245 250 255

gtc ttc tct ttc ctt act cat cga ttt gga cac caa ata cca ggt tac 816  
 Val Phe Ser Phe Leu Thr His Arg Phe Gly His Gln Ile Pro Gly Tyr  
 260 265 270

att cac att ctt gtt gcc aat ctc tat ttg att atc cca ccc tct ctc 864  
 Ile His Ile Leu Val Ala Asn Leu Tyr Leu Ile Ile Pro Pro Ser Leu  
 275 280 285

aac ccc atc att tat ggg gtg agg acc aaa cag att cga gag cga gtg 912  
 Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Arg Val  
 290 295 300

ctc tat gtt ttt act aaa aaa taa 936  
 Leu Tyr Val Phe Thr Lys Lys  
 305 310

<210> 434  
 <211> 311  
 <212> PRT  
 <213> Homo Sapiens

<400> 434

Met Phe Tyr His Asn Lys Ser Ile Phe His Pro Val Thr Phe Phe Leu  
 1 5 10 15

Ile Gly Ile Pro Gly Leu Glu Asp Phe His Met Trp Ile Ser Gly Pro  
 20 25 30

Phe Cys Ser Val Tyr Leu Val Ala Leu Leu Gly Asn Ala Thr Ile Leu  
 35 40 45

Leu Val Ile Lys Val Glu Gln Thr Leu Arg Glu Pro Met Phe Tyr Phe  
 50 55 60

Leu Ala Ile Leu Ser Thr Ile Asp Leu Ala Leu Ser Ala Thr Ser Val  
 65 70 75 80

Pro Arg Met Leu Gly Ile Phe Trp Phe Asp Ala His Glu Ile Asn Tyr  
 85 90 95

Gly Ala Cys Val Ala Gln Met Phe Leu Ile His Ala Phe Thr Gly Met  
 100 105 110

Glu Ala Glu Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile  
 115 120 125

Cys Ala Pro Leu His Tyr Ala Thr Ile Leu Thr Ser Leu Val Leu Val  
 130 135 140

Gly Ile Ser Met Cys Ile Val Ile Arg Pro Val Leu Leu Thr Leu Pro  
 145 150 155 160

Met Val Tyr Leu Ile Tyr Arg Leu Pro Phe Cys Gln Ala His Ile Ile  
 165 170 175

Ala His Ser Tyr Cys Glu His Met Gly Ile Ala Lys Leu Ser Cys Gly  
 180 185 190

Asn Ile Arg Ile Asn Gly Ile Tyr Gly Leu Phe Val Val Ser Phe Phe  
 195 200 205

Val Leu Asn Leu Val Leu Ile Gly Ile Ser Tyr Val Tyr Ile Leu Arg  
 210 215 220

Ala Val Phe Arg Leu Pro Ser His Asp Ala Gln Leu Lys Ala Leu Ser  
 225 230 235 240

Thr Cys Gly Ala His Val Gly Val Ile Cys Val Phe Tyr Ile Pro Ser  
 245 250 255

Val Phe Ser Phe Leu Thr His Arg Phe Gly His Gln Ile Pro Gly Tyr  
 260 265 270

Ile His Ile Leu Val Ala Asn Leu Tyr Leu Ile Ile Pro Pro Ser Leu  
 275 280 285

Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Arg Glu Arg Val  
 290 295 300

Leu Tyr Val Phe Thr Lys Lys  
 305 310

<210> 435  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (939)  
 <223>

<400> 435  
 atg tcc att atc aac aca tca tat gtt gaa atc acc acc ttc ttc ttg 48  
 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu  
 1 5 10 15

gtt ggg atg cca ggg cta gaa tat gca cac atc tgg atc tct atc ccc 96  
 Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro  
 20 25 30

atc tgc agc atg tat ctt att gct att cta gga aat ggc acc att ctt 144  
 Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu  
 35 40 45

ttt atc atc aag aca gag ccc tcc ttg cat gag ccc atg tac tat ttt 192  
 Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe  
 50 55 60

ctt tcc atg ttg gct atg tca gac ttg ggt ttg tct tta tca tct ctg 240  
 Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu  
 65 70 75 80

ccc act gtg tta agc atc ttc ctg ttc aat gct cct gaa att tca tcc 288  
 Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser  
 85 90 95

aat gcc tgc ttt gcc cag gaa ttc ttc att cat gga ttc tca gta ctg 336  
 Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu  
 100 105 110

gag tcc tca gtc ctc ctg atc atg tca ttt gat aga ttc cta gcc atc 384  
 Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile  
 115 120 125

cac aac cct ctg aga tac acc tca atc ctg aca act gtc aga gtt gcc 432  
 His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala  
 130 135 140

caa ata ggg ata gta ttc tcc ttt aag agc atg ctc ctg gtt ctt ccc 480  
 Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro  
 145 150 155 160

ttc cct ttc act tta aga aac ttg aga tat tgc aag aaa aac caa tta 528  
 Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu  
 165 170 175

tcc cat tcc tac tgt ctc cac cag gat gtc atg aag ttg gcc tgt tct 576  
 Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser  
 180 185 190

gac aac aga att gat gtt atc tat ggc ttt ttt gga gca ctc tgc ctt 624  
 Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu  
 195 200 205

atg gta gac ttt att ctc att gct gtg tct tac acc ctg atc ctc aag 672  
 Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys  
 210 215 220

act gta ctg gga att gca tcc aaa aag gag cag ctt aag gct ctc aat 720  
 Thr Val Leu Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn

[illegible]

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<210> 436
<211> 313
<212> PRT
<213> Homo Sapiens
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<400> 436

Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu  
1 5 10 15

Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro  
20 25 30

Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu  
35 40 45

Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe  
50 55 60

Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu  
65 70 75 80

Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser  
85 90 95

Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu  
100 105 110

Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile  
115 120 125

His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala  
 130 135 140

Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro  
 145 150 155 160

Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu  
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser  
 180 185 190

Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu  
 195 200 205

Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys  
 210 215 220

Thr Val Leu Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn  
 225 230 235 240

Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile  
 245 250 255

Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu  
 260 265 270

Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Thr  
 275 280 285

Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val  
 290 295 300

Val Ala Lys Leu Cys Gln Arg Lys Ile  
 305 310

<210> 437  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(945)  
 <223>

<400> 437



atg gga gac tgg aat aac agt gat gct gtg gag ccc ata ttt atc ctg Met Gly Asp Trp Asn Asn Ser Asp Ala Val Glu Pro Ile Phe Ile Leu 1 5 10 15	48
agg ggt ttt cct gga ctg gag tat gtt cat tct tgg ctc tcc atc ctc Arg Gly Phe Pro Gly Leu Glu Tyr Val His Ser Trp Leu Ser Ile Leu 20 25 30	96
ttc tgt ctt gca tat ttg gta gca ttt atg ggt aat gtt acc atc ctg Phe Cys Leu Ala Tyr Leu Val Ala Phe Met Gly Asn Val Thr Ile Leu 35 40 45	144
tct gtc att tgg ata gaa tcc tct ctc cat cag ccc atg tat tac ttt Ser Val Ile Trp Ile Glu Ser Ser Leu His Gln Pro Met Tyr Tyr Phe 50 55 60	192
att tcc atc tta gca gtg aat gac ctg ggg atg tcc ctg tct aca ctt Ile Ser Ile Leu Ala Val Asn Asp Leu Gly Met Ser Leu Ser Thr Leu 65 70 75 80	240
ccc acc atg ctt gct gtg tta tgg ttg gat gct cca gag atc cag gca Pro Thr Met Leu Ala Val Leu Trp Leu Asp Ala Pro Glu Ile Gln Ala 85 90 95	288
agt gct tgc tat gct cag ctg ttc ttc atc cac aca ttc aca ttc ctg Ser Ala Cys Tyr Ala Gln Leu Phe Phe Ile His Thr Phe Thr Phe Leu 100 105 110	336
gag tcc tca gtg ttg ctg gcc atg gcc ttt gac cgt ttt gtt gct atc Glu Ser Ser Val Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile 115 120 125	384
tgc cat cca ctg cac tac ccc acc atc ctc acc aac agt gta att ggc Cys His Pro Leu His Tyr Pro Thr Ile Leu Thr Asn Ser Val Ile Gly 130 135 140	432
aaa att ggt ttg gcc tgt ttg cta cga agc ttg gga gtt gta ctt ccc Lys Ile Gly Leu Ala Cys Leu Leu Arg Ser Leu Gly Val Val Leu Pro 145 150 155 160	480
aca cct ttg cta ctg aga cac tat cac tac tgc cat ggc aat gcc ctc Thr Pro Leu Leu Leu Arg His Tyr His Tyr Cys His Gly Asn Ala Leu 165 170 175	528
tct cac gcc ttc tgt ttg cac cag gat gtt cta aga tta tcc tgt aca Ser His Ala Phe Cys Leu His Gln Asp Val Leu Arg Leu Ser Cys Thr 180 185 190	576
gat gcc agg acc aac agt att tat ggg ctt tgt gta gtc att gcc aca Asp Ala Arg Thr Asn Ser Ile Tyr Gly Leu Cys Val Val Ile Ala Thr 195 200 205	624
cta ggt gtg gat tca atc ttc ata ctt ctt tct tat gtt ctg att ctt Leu Gly Val Asp Ser Ile Phe Ile Leu Leu Ser Tyr Val Leu Ile Leu 210 215 220	672
aat act gtg ctg gat att gca tct cgt gaa gag cag cta aag gca ctc Asn Thr Val Leu Asp Ile Ala Ser Arg Glu Glu Gln Leu Lys Ala Leu 225 230 235 240	720
aac aca tgt gta tcc cat atc tgt gtg gtg ctt atc ttc ttt gtg cca	768

Asn Thr Cys Val Ser His Ile Cys Val Val Leu Ile Phe Phe Val Pro  
 245 250 255  
 gtt att ggg gtg tca atg gtc cat cgc ttt ggg aag cat ctg tct ccc 816  
 Val Ile Gly Val Ser Met Val His Arg Phe Gly Lys His Leu Ser Pro  
 260 265 270  
 ata gtc cac atc ctc atg gca gac atc tac ctt ctt ctt ccc cca gtc 864  
 Ile Val His Ile Leu Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro Val  
 275 280 285  
 ctt aac cct att gtc tat agt gtc aga aca aag cag att cgt cta gga 912  
 Leu Asn Pro Ile Val Tyr Ser Val Arg Thr Lys Gln Ile Arg Leu Gly  
 290 295 300  
 att ctc cac aag ttt gtc cta agg agg agg ttt taa 948  
 Ile Leu His Lys Phe Val Leu Arg Arg Arg Phe  
 305 310 315

<210> 438  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 438

Met Gly Asp Trp Asn Asn Ser Asp Ala Val Glu Pro Ile Phe Ile Leu  
 1 5 10 15

Arg Gly Phe Pro Gly Leu Glu Tyr Val His Ser Trp Leu Ser Ile Leu  
 20 25 30

Phe Cys Leu Ala Tyr Leu Val Ala Phe Met Gly Asn Val Thr Ile Leu  
 35 40 45

Ser Val Ile Trp Ile Glu Ser Ser Leu His Gln Pro Met Tyr Tyr Phe  
 50 55 60

Ile Ser Ile Leu Ala Val Asn Asp Leu Gly Met Ser Leu Ser Thr Leu  
 65 70 75 80

Pro Thr Met Leu Ala Val Leu Trp Leu Asp Ala Pro Glu Ile Gln Ala  
 85 90 95

Ser Ala Cys Tyr Ala Gln Leu Phe Phe Ile His Thr Phe Thr Phe Leu  
 100 105 110

Glu Ser Ser Val Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile  
 115 120 125

Cys His Pro Leu His Tyr Pro Thr Ile Leu Thr Asn Ser Val Ile Gly  
 130 135 140

Lys Ile Gly Leu Ala Cys Leu Leu Arg Ser Leu Gly Val Val Leu Pro  
 145 150 155 160

Thr Pro Leu Leu Leu Arg His Tyr His Tyr Cys His Gly Asn Ala Leu  
 165 170 175

Ser His Ala Phe Cys Leu His Gln Asp Val Leu Arg Leu Ser Cys Thr  
 180 185 190

Asp Ala Arg Thr Asn Ser Ile Tyr Gly Leu Cys Val Val Ile Ala Thr  
 195 200 205

Leu Gly Val Asp Ser Ile Phe Ile Leu Leu Ser Tyr Val Leu Ile Leu  
 210 215 220

Asn Thr Val Leu Asp Ile Ala Ser Arg Glu Glu Gln Leu Lys Ala Leu  
 225 230 235 240

Asn Thr Cys Val Ser His Ile Cys Val Val Leu Ile Phe Phe Val Pro  
 245 250 255

Val Ile Gly Val Ser Met Val His Arg Phe Gly Lys His Leu Ser Pro  
 260 265 270

Ile Val His Ile Leu Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro Val  
 275 280 285

Leu Asn Pro Ile Val Tyr Ser Val Arg Thr Lys Gln Ile Arg Leu Gly  
 290 295 300

Ile Leu His Lys Phe Val Leu Arg Arg Arg Phe  
 305 310 315

<210> 439

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1)..(939)

<223>

<400> 439

atg tcc att atc aac aca tca tat gtt gaa atc acc acc ttc ttc ttg  
 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu  
 1 5 10 15

48

gtt ggg atg cca ggg cta gaa tat gca cac atc tgg atc tct atc ccc	96
Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro	
20 25 30	
atc tgc agc atg tat ctt att gct att cta gga aat ggc acc att ctt	144
Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu	
35 40 45	
ttt atc atc aag aca gag ccc tcc ttg cat ggg ccc atg tac tat ttt	192
Phe Ile Ile Lys Thr Glu Pro Ser Leu His Gly Pro Met Tyr Tyr Phe	
50 55 60	
ctt tcc atg ttg gct atg tca gac ttg ggt ttg tct tta tca tct ctg	240
Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu	
65 70 75 80	
ccc act gtg tta agc atc ttc ctg ttc aat gcc cct gaa act tct tct	288
Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Thr Ser Ser	
85 90 95	
agt gcc tgc ttt gcc cag gaa ttc ttc att cat gga ttc tca gta ctg	336
Ser Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu	
100 105 110	
gag tcc tca gtc ctc ctg atc atg tca ttt gat aga ttc cta gcc atc	384
Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile	
115 120 125	
cac aat cct ctg aga tac acc tca atc ctg aca act gtc aga gtt gcc	432
His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala	
130 135 140	
caa ata ggg ata gta ttc tcc ttt aag agc atg ctc ctg gtt ctt ccc	480
Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro	
145 150 155 160	
ttc cct ttc act tta aga agc ttg aga tat tgc aag aaa aac caa tta	528
Phe Pro Phe Thr Leu Arg Ser Leu Arg Tyr Cys Lys Lys Asn Gln Leu	
165 170 175	
tcc cat tcc tac tgt ctc cac cag gat gtc atg aag ttg gcc tgt tct	576
Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser	
180 185 190	
gac aac aga att gat gtt atc tat ggc ttt ttt gga gca ctc tgc ctt	624
Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu	
195 200 205	
atg gta gac ttt att ctc att gct gtg tct tac acc ctg atc ctc aag	672
Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys	
210 215 220	
act gta ccg gga att gca tcc aaa aag gag gag ctt aag gct ctc aat	720
Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Glu Leu Lys Ala Leu Asn	
225 230 235 240	
act tgt gtt tca cac atc tgt gca gtg atc atc ttc tac ctg ccc atc	768
Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile	
245 250 255	

atc aac ctg gcc gtt gtc cac cgc ttt gcc ggg cat gtc tct ccc ctc 816  
 Ile Asn Leu Ala Val Val His Arg Phe Ala Gly His Val Ser Pro Leu  
                   260                  265                  270

att aat gtt ctc atg gca aat gtt ctc cta ctt gta cct ccg ctg atg 864  
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met  
                   275                  280                  285

aaa cca att gtt tat tgt gta aaa act aaa cag att aga gtg aga gtt 912  
 Lys Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val  
                   290                  295                  300

gta gca aaa ttg tgt caa tgg aag att taa 942  
 Val Ala Lys Leu Cys Gln Trp Lys Ile  
                   305                  310

<210> 440

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 440

Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu  
 1                  5                  10                  15

Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro  
                   20                  25                  30

Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Gly Thr Ile Leu  
                   35                  40                  45

Phe Ile Ile Lys Thr Glu Pro Ser Leu His Gly Pro Met Tyr Tyr Phe  
                   50                  55                  60

Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu  
                   65                  70                  75                  80

Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Thr Ser Ser  
                   85                  90                  95

Ser Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu  
                   100                  105                  110

Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile  
                   115                  120                  125

His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala  
                   130                  135                  140

Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro

145                      150                      155                      160  
 Phe Pro Phe Thr Leu Arg Ser Leu Arg Tyr Cys Lys Lys Asn Gln Leu  
                                  165                      170                      175  
 Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser  
                                  180                      185                      190  
 Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu  
                                  195                      200                      205  
 Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys  
                                  210                      215                      220  
 Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Glu Leu Lys Ala Leu Asn  
                                  225                      230                      235                      240  
 Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile  
                                  245                      250                      255  
 Ile Asn Leu Ala Val Val His Arg Phe Ala Gly His Val Ser Pro Leu  
                                  260                      265                      270  
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met  
                                  275                      280                      285  
 Lys Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val  
                                  290                      295                      300  
 Val Ala Lys Leu Cys Gln Trp Lys Ile  
                                  305                      310

<210> 441  
 <211> 1029  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(1026)  
 <223>

<400> 441  
 atg act gaa aca tcc ctg tct tct cag tgc ttc cct atg tcg gtc ctc                      48  
 Met Thr Glu Thr Ser Leu Ser Ser Gln Cys Phe Pro Met Ser Val Leu  
 1                      5                      10                      15  
 aat aat acc att gct gag cct ctg atc ttc ctc ctg atg ggc att cca                      96  
 Asn Asn Thr Ile Ala Glu Pro Leu Ile Phe Leu Leu Met Gly Ile Pro

659

Ala Gln Met Phe Phe Leu His Gly Phe Thr Phe Met Glu Ser Gly Val  
115 120 125



Leu Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile Cys Tyr Pro Leu  
 130 135 140

Arg Tyr Thr Thr Ile Leu Thr Asn Ala Arg Ile Ala Lys Ile Gly Met  
 145 150 155 160

Ser Met Leu Ile Arg Asn Val Ala Val Met Leu Pro Val Met Leu Phe  
 165 170 175

Val Lys Arg Leu Ser Phe Cys Ser Ser Met Val Leu Ser His Ser Tyr  
 180 185 190

Cys Tyr His Val Asp Leu Ile Gln Leu Ser Cys Thr Asp Asn Arg Ile  
 195 200 205

Asn Ser Ile Leu Gly Leu Phe Ala Leu Leu Ser Thr Thr Gly Phe Asp  
 210 215 220

Cys Pro Cys Ile Leu Leu Ser Tyr Ile Leu Ile Ile Arg Ser Val Leu  
 225 230 235 240

Ser Ile Ala Ser Ser Glu Glu Arg Arg Lys Ala Phe Asn Thr Cys Thr  
 245 250 255

Ser His Ile Ser Ala Val Ser Ile Phe Tyr Leu Pro Leu Ile Ser Leu  
 260 265 270

Ser Leu Val His Arg Tyr Gly His Ser Ala Pro Pro Phe Val His Ile  
 275 280 285

Ile Met Ala Asn Val Phe Leu Leu Ile Pro Pro Val Leu Asn Pro Ile  
 290 295 300

Ile Tyr Ser Val Lys Ile Lys Gln Ile Gln Lys Ala Ile Ile Lys Val  
 305 310 315 320

Leu Ile Gln Lys His Ser Lys Ser Asn His Gln Leu Phe Leu Ile Arg  
 325 330 335

Asp Lys Ala Ile Tyr Glu  
 340

<210> 443

<211> 957

<212> DNA

<213> Homo Sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1) .. (954)

&lt;223&gt;

&lt;400&gt; 443

atg gac aag ata aac cag aca ttt gtg aga gaa ttc att ctt ctg gga	48
Met Asp Lys Ile Asn Gln Thr Phe Val Arg Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ctc tct ggt tac ccc aaa ctt gag atc att ttc ttt gct ctg att cta	96
Leu Ser Gly Tyr Pro Lys Leu Glu Ile Ile Phe Phe Ala Leu Ile Leu	
20 25 30	
gtt atg tac gta gtg att cta att ggc aat ggt gtt ctg atc ata gca	144
Val Met Tyr Val Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala	
35 40 45	
agc atc ttg gat tct cgt ctt cac atg ccc atg tac ttc ttc ctg ggc	192
Ser Ile Leu Asp Ser Arg Leu His Met Pro Met Tyr Phe Phe Leu Gly	
50 55 60	
aac ctc tct ttc ctg gat atc tgc tat aca acc tcc tcc att ccc tca	240
Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Ser Ser Ile Pro Ser	
65 70 75 80	
aca ctg gtg agc tta atc tca aag aaa aga aac att tcc ttc tct gga	288
Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly	
85 90 95	
tgt gca gtg cag atg ttc ttt ggg ttt gca atg ggg tca aca gaa tgt	336
Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys	
100 105 110	
ttc ctc ctt ggc atg atg gca ttt gat cgt tat gtg gcc atc tgt aac	384
Phe Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn	
115 120 125	
cct ctg aga tac ccc atc atc atg aac aag gtg gtg tat gta ctg ctg	432
Pro Leu Arg Tyr Pro Ile Ile Met Asn Lys Val Val Tyr Val Leu Leu	
130 135 140	
act tct gta tca tgg ctt tct ggt gga atc aat tca act gtg caa aca	480
Thr Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Thr Val Gln Thr	
145 150 155 160	
tca ctt gcc atg cga tgg cct ttc tgt ggg aac aat att att aat cat	528
Ser Leu Ala Met Arg Trp Pro Phe Cys Gly Asn Asn Ile Ile Asn His	
165 170 175	
ttc tta tgc gag atc tta gct gtc cta aaa tta gct tgt tct gat ata	576
Phe Leu Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ser Asp Ile	
180 185 190	
tct gtc aat att gtt acc cta gca gtg tca aat att gct ttc cta gtt	624
Ser Val Asn Ile Val Thr Leu Ala Val Ser Asn Ile Ala Phe Leu Val	
195 200 205	
ctt cct ctg ctc gtg att ttt ttc tcc tat atg ttc atc ctc tac acc	672
Leu Pro Leu Leu Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr	

210	215	220	
atc ttg cga acg aac tcg gcc aca gga aga cac aag gca ttt tct aca			720
Ile Leu Arg Thr Asn Ser Ala Thr Gly Arg His Lys Ala Phe Ser Thr			
225	230	235	240
tgc tca gct cac ctg act gtg gtg atc ata ttt tat ggt acc atc ttc			768
Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe			
	245	250	255
ttt atg tat gca aaa cct aag tcc cag gac ctc ctt ggg aaa gac aac			816
Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Leu Gly Lys Asp Asn			
	260	265	270
ttg caa gct aca gag ggg ctt gtt tcc atg ttt tat ggg gtt gtg acc			864
Leu Gln Ala Thr Glu Gly Leu Val Ser Met Phe Tyr Gly Val Val Thr			
	275	280	285
ccc atg tta aac ccc ata atc tat agc ttg aga aat aaa gat gta aaa			912
Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys			
	290	295	300
gct gct ata aaa tat ttg ctg agc agg aaa gct att aac cag taa			957
Ala Ala Ile Lys Tyr Leu Leu Ser Arg Lys Ala Ile Asn Gln			
305	310	315	

<210> 444  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 444

Met Asp Lys Ile Asn Gln Thr Phe Val Arg Glu Phe Ile Leu Leu Gly  
 1 5 10 15

Leu Ser Gly Tyr Pro Lys Leu Glu Ile Ile Phe Phe Ala Leu Ile Leu  
 20 25 30

Val Met Tyr Val Val Ile Leu Ile Gly Asn Gly Val Leu Ile Ile Ala  
 35 40 45

Ser Ile Leu Asp Ser Arg Leu His Met Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Ser Ser Ile Pro Ser  
 65 70 75 80

Thr Leu Val Ser Leu Ile Ser Lys Lys Arg Asn Ile Ser Phe Ser Gly  
 85 90 95

Cys Ala Val Gln Met Phe Phe Gly Phe Ala Met Gly Ser Thr Glu Cys  
 100 105 110

Phe Leu Leu Gly Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125

Pro Leu Arg Tyr Pro Ile Ile Met Asn Lys Val Val Tyr Val Leu Leu  
 130 135 140

Thr Ser Val Ser Trp Leu Ser Gly Gly Ile Asn Ser Thr Val Gln Thr  
 145 150 155 160

Ser Leu Ala Met Arg Trp Pro Phe Cys Gly Asn Asn Ile Ile Asn His  
 165 170 175

Phe Leu Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ser Asp Ile  
 180 185 190

Ser Val Asn Ile Val Thr Leu Ala Val Ser Asn Ile Ala Phe Leu Val  
 195 200 205

Leu Pro Leu Leu Val Ile Phe Phe Ser Tyr Met Phe Ile Leu Tyr Thr  
 210 215 220

Ile Leu Arg Thr Asn Ser Ala Thr Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
 245 250 255

Phe Met Tyr Ala Lys Pro Lys Ser Gln Asp Leu Leu Gly Lys Asp Asn  
 260 265 270

Leu Gln Ala Thr Glu Gly Leu Val Ser Met Phe Tyr Gly Val Val Thr  
 275 280 285

Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Ala Ala Ile Lys Tyr Leu Leu Ser Arg Lys Ala Ile Asn Gln  
 305 310 315

<210> 445  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (945)

&lt;223&gt;

&lt;400&gt; 445

atg	gtg	ctg	gct	tca	ggg	aac	agc	tct	tct	cat	cct	gtg	tcc	ttc	atc	48
Met	Val	Leu	Ala	Ser	Gly	Asn	Ser	Ser	Ser	His	Pro	Val	Ser	Phe	Ile	
1				5				10						15		
ctg	ctt	gga	atc	cca	ggc	ctg	gag	agt	ttc	cag	ttg	tgg	att	gcc	ttt	96
Leu	Leu	Gly	Ile	Pro	Gly	Leu	Glu	Ser	Phe	Gln	Leu	Trp	Ile	Ala	Phe	
			20					25					30			
ccg	ttc	tgt	gcc	acg	tat	gct	gtg	gct	ggt	ggt	gga	aat	atc	act	ctc	144
Pro	Phe	Cys	Ala	Thr	Tyr	Ala	Val	Ala	Val	Val	Gly	Asn	Ile	Thr	Leu	
			35				40					45				
ctc	cat	gta	atc	aga	att	gac	cac	acc	ctg	cat	gag	ccc	atg	tac	ctc	192
Leu	His	Val	Ile	Arg	Ile	Asp	His	Thr	Leu	His	Glu	Pro	Met	Tyr	Leu	
	50					55					60					
ttt	ctg	gcc	atg	ctg	gcc	atc	act	gac	ctg	gtc	ctc	tcc	tcc	tcc	act	240
Phe	Leu	Ala	Met	Leu	Ala	Ile	Thr	Asp	Leu	Val	Leu	Ser	Ser	Ser	Thr	
65					70				75						80	
caa	cct	aag	atg	ttg	gcc	ata	ttc	tgg	ttt	cat	gct	cat	gag	att	cag	288
Gln	Pro	Lys	Met	Leu	Ala	Ile	Phe	Trp	Phe	His	Ala	His	Glu	Ile	Gln	
			85					90					95			
tac	cat	gcc	tgc	ctc	atc	cag	gtg	ttc	ttc	atc	cat	gcc	ttt	tct	tct	336
Tyr	His	Ala	Cys	Leu	Ile	Gln	Val	Phe	Phe	Ile	His	Ala	Phe	Ser	Ser	
			100					105					110			
gtg	gag	tct	ggg	gtg	ctc	atg	gct	atg	gcc	ctg	gac	tgc	tac	gtg	gct	384
Val	Glu	Ser	Gly	Val	Leu	Met	Ala	Met	Ala	Leu	Asp	Cys	Tyr	Val	Ala	
			115				120					125				
acc	tgc	ttc	cca	ctc	cga	cac	tct	agc	atc	ctg	acc	cca	tgc	gtc	gtg	432
Thr	Cys	Phe	Pro	Leu	Arg	His	Ser	Ser	Ile	Leu	Thr	Pro	Ser	Val	Val	
			130			135					140					
atc	aaa	ctg	ggg	acc	atc	gtg	atg	ctg	aga	ggg	ctg	ctg	tgg	gtg	agc	480
Ile	Lys	Leu	Gly	Thr	Ile	Val	Met	Leu	Arg	Gly	Leu	Leu	Trp	Val	Ser	
145					150				155						160	
ccc	ttc	tgc	ttc	atg	gtg	tct	agg	atg	ccc	ttc	tgc	caa	cac	caa	gcc	528
Pro	Phe	Cys	Phe	Met	Val	Ser	Arg	Met	Pro	Phe	Cys	Gln	His	Gln	Ala	
				165				170						175		
att	ccc	cag	tca	tac	tgt	gag	cac	atg	gct	gtg	ctg	aag	ttg	gtg	tgt	576
Ile	Pro	Gln	Ser	Tyr	Cys	Glu	His	Met	Ala	Val	Leu	Lys	Leu	Val	Cys	
			180					185					190			
gct	gat	aca	agc	ata	agt	cgt	ggg	tat	ggg	ctc	ttt	gtg	gcc	ttc	tct	624
Ala	Asp	Thr	Ser	Ile	Ser	Arg	Gly	Tyr	Gly	Leu	Phe	Val	Ala	Phe	Ser	
			195			200						205				
gtg	gct	ggc	ttt	gat	atg	att	gtc	att	ggg	atg	tca	tac	gtg	atg	att	672
Val	Ala	Gly	Phe	Asp	Met	Ile	Val	Ile	Gly	Met	Ser	Tyr	Val	Met	Ile	
	210					215					220					
ttg	aga	gct	gtg	ctt	cag	ttg	ccc	tca	ggg	gaa	gcc	cgc	ctc	aaa	gct	720

Leu Arg Ala Val Leu Gln Leu Pro Ser Gly Glu Ala Arg Leu Lys Ala  
 225 230 235 240  
 ttt agc aca cgt gcc tcc cat atc tgt gtc atc ttg gct ctt tat atc 768  
 Phe Ser Thr Arg Ala Ser His Ile Cys Val Ile Leu Ala Leu Tyr Ile  
 245 250 255  
 cca gcc ctt ttt tct ttc ctc acc tac cgc ttt ggc cat gat gtg ccc 816  
 Pro Ala Leu Phe Ser Phe Leu Thr Tyr Arg Phe Gly His Asp Val Pro  
 260 265 270  
 cga gtt gta cac atc ctg ttt gct aat ctc tat cta ctg ata cct ccc 864  
 Arg Val Val His Ile Leu Phe Ala Asn Leu Tyr Leu Leu Ile Pro Pro  
 275 280 285  
 atg ctc aac ccc atc att tat gga gtt aga acc aaa cag atc ggg gac 912  
 Met Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gly Asp  
 290 295 300  
 agg gtt atc caa gga tgt tgt gga aac atc ccc tga 948  
 Arg Val Ile Gln Gly Cys Cys Gly Asn Ile Pro  
 305 310 315

<210> 446  
 <211> 315  
 <212> PRT  
 <213> Homo Sapiens

<400> 446

Met Val Leu Ala Ser Gly Asn Ser Ser Ser His Pro Val Ser Phe Ile  
 1 5 10 15

Leu Leu Gly Ile Pro Gly Leu Glu Ser Phe Gln Leu Trp Ile Ala Phe  
 20 25 30

Pro Phe Cys Ala Thr Tyr Ala Val Ala Val Val Gly Asn Ile Thr Leu  
 35 40 45

Leu His Val Ile Arg Ile Asp His Thr Leu His Glu Pro Met Tyr Leu  
 50 55 60

Phe Leu Ala Met Leu Ala Ile Thr Asp Leu Val Leu Ser Ser Ser Thr  
 65 70 75 80

Gln Pro Lys Met Leu Ala Ile Phe Trp Phe His Ala His Glu Ile Gln  
 85 90 95

Tyr His Ala Cys Leu Ile Gln Val Phe Phe Ile His Ala Phe Ser Ser  
 100 105 110

Val Glu Ser Gly Val Leu Met Ala Met Ala Leu Asp Cys Tyr Val Ala  
 115 120 125

Thr Cys Phe Pro Leu Arg His Ser Ser Ile Leu Thr Pro Ser Val Val  
 130 135 140

Ile Lys Leu Gly Thr Ile Val Met Leu Arg Gly Leu Leu Trp Val Ser  
 145 150 155 160

Pro Phe Cys Phe Met Val Ser Arg Met Pro Phe Cys Gln His Gln Ala  
 165 170 175

Ile Pro Gln Ser Tyr Cys Glu His Met Ala Val Leu Lys Leu Val Cys  
 180 185 190

Ala Asp Thr Ser Ile Ser Arg Gly Tyr Gly Leu Phe Val Ala Phe Ser  
 195 200 205

Val Ala Gly Phe Asp Met Ile Val Ile Gly Met Ser Tyr Val Met Ile  
 210 215 220

Leu Arg Ala Val Leu Gln Leu Pro Ser Gly Glu Ala Arg Leu Lys Ala  
 225 230 235 240

Phe Ser Thr Arg Ala Ser His Ile Cys Val Ile Leu Ala Leu Tyr Ile  
 245 250 255

Pro Ala Leu Phe Ser Phe Leu Thr Tyr Arg Phe Gly His Asp Val Pro  
 260 265 270

Arg Val Val His Ile Leu Phe Ala Asn Leu Tyr Leu Leu Ile Pro Pro  
 275 280 285

Met Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gly Asp  
 290 295 300

Arg Val Ile Gln Gly Cys Cys Gly Asn Ile Pro  
 305 310 315

<210> 447  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (942)  
 <223>

&lt;400&gt; 447

atg acc ctg gga tcc ctg gga aac agc agc agc agc gtt tct gct acc	48
Met Thr Leu Gly Ser Leu Gly Asn Ser Ser Ser Ser Val Ser Ala Thr	
1 5 10 15	
ttc ctg ctg agt ggc atc cct ggg ctg gag cgc atg cac atc tgg atc	96
Phe Leu Leu Ser Gly Ile Pro Gly Leu Glu Arg Met His Ile Trp Ile	
20 25 30	
tcc atc cca ctg tgc ttc atg tat ctg gtt tcc atc ccg ggc aac tgc	144
Ser Ile Pro Leu Cys Phe Met Tyr Leu Val Ser Ile Pro Gly Asn Cys	
35 40 45	
aca att ctt ttt atc att aaa aca gag cgc tca ctt cat gaa cct atg	192
Thr Ile Leu Phe Ile Ile Lys Thr Glu Arg Ser Leu His Glu Pro Met	
50 55 60	
tat ctc ttc ctg tcc atg ctg gct ctg att gac ctg ggt ctc tcc ctt	240
Tyr Leu Phe Leu Ser Met Leu Ala Leu Ile Asp Leu Gly Leu Ser Leu	
65 70 75 80	
tgc act ctc cct aca gtc ctg ggc atc ttt tgg gtt gga gca cga gaa	288
Cys Thr Leu Pro Thr Val Leu Gly Ile Phe Trp Val Gly Ala Arg Glu	
85 90 95	
att agc cat gat gcc tgc ttt gct cag ctc ttt ttc att cac tgc ttc	336
Ile Ser His Asp Ala Cys Phe Ala Gln Leu Phe Phe Ile His Cys Phe	
100 105 110	
tcc ttc ctc gag tcc tct gtg cta ctg tct atg gcc ttt gac cgc ttt	384
Ser Phe Leu Glu Ser Ser Val Leu Leu Ser Met Ala Phe Asp Arg Phe	
115 120 125	
gtg gct atc tgc cac ccc ttg cac tat gtt tcc att ctc acc aac aca	432
Val Ala Ile Cys His Pro Leu His Tyr Val Ser Ile Leu Thr Asn Thr	
130 135 140	
gtc att ggc agg att ggc ctg gtc tct ctg ggt cgt agt gta gca ctc	480
Val Ile Gly Arg Ile Gly Leu Val Ser Leu Gly Arg Ser Val Ala Leu	
145 150 155 160	
att ttt cca tta cct ttt atg ctc aaa aga ttc ccc tat tgt ggc tcc	528
Ile Phe Pro Leu Pro Phe Met Leu Lys Arg Phe Pro Tyr Cys Gly Ser	
165 170 175	
cca gtt ctc tca cat tct tat tgt ctc cac caa gaa gtg atg aaa ttg	576
Pro Val Leu Ser His Ser Tyr Cys Leu His Gln Glu Val Met Lys Leu	
180 185 190	
gcc tgt gcc gac atg aag gcc aac agc atc tac ggc atg ttt gtc atc	624
Ala Cys Ala Asp Met Lys Ala Asn Ser Ile Tyr Gly Met Phe Val Ile	
195 200 205	
gtc tct aca gtg ggt ata gac tca ctg ctc atc ctc ttc tct tat gct	672
Val Ser Thr Val Gly Ile Asp Ser Leu Leu Ile Leu Phe Ser Tyr Ala	
210 215 220	
ctg atc ctg cgc acc gtg ctg tcc atc gcc tcc agg gct gag aga ttc	720
Leu Ile Leu Arg Thr Val Leu Ser Ile Ala Ser Arg Ala Glu Arg Phe	
225 230 235 240	



aag gcc ctt aac acc tgt gtt tcc cac atc tgt gct gtg ctg ctc ttc 768  
Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe  
245 250 255

tac	act	ccc	atg	att	ggc	ctc	tct	gtc	atc	cat	cgc	ttt	gga	aag	cag	816
Tyr	Thr	Pro	Met	Ile	Gly	Leu	Ser	Val	Ile	His	Arg	Phe	Gly	Lys	Gln	
			260					265					270			

gca ccc cac ctg gtc cag gtg gtc atg ggt ttc atg tat ctt ctc ttt 864  
Ala Pro His Leu Val Gln Val Val Met Gly Phe Met Tyr Leu Leu Phe  
275 280 285

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cct cct gtg atg aat ccc att gtc tac agt gtg aag acc aaa cag atc      912
Pro Pro Val Met Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile
      290                      295                      300

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cgg gat cga gtg acg cat gcc ttt tgt tac taa 945  
Arg Asp Arg Val Thr His Ala Phe Cys Tyr  
305 310

<210> 448

<211> 314

<212> PRT

<213> Homo Sapiens

<400> 448

Met Thr Leu Gly Ser Leu Gly Asn Ser Ser Ser Ser Val Ser Ala Thr  
1 5 10 15

Phe Leu Leu Ser Gly Ile Pro Gly Leu Glu Arg Met His Ile Trp Ile  
20 25 30

Ser Ile Pro Leu Cys Phe Met Tyr Leu Val Ser Ile Pro Gly Asn Cys  
35 40 45

Thr Ile Leu Phe Ile Ile Lys Thr Glu Arg Ser Leu His Glu Pro Met  
50 55 60

Tyr Leu Phe Leu Ser Met Leu Ala Leu Ile Asp Leu Gly Leu Ser Leu  
65 70 75 80

Cys Thr Leu Pro Thr Val Leu Gly Ile Phe Trp Val Gly Ala Arg Glu  
85 90 95

Ile Ser His Asp Ala Cys Phe Ala Gln Leu Phe Phe Ile His Cys Phe  
100 105 110

Ser Phe Leu Glu Ser Ser Val Leu Leu Ser Met Ala Phe Asp Arg Phe  
115 120 125

Val Ala Ile Cys His Pro Leu His Tyr Val Ser Ile Leu Thr Asn Thr

130                      135                      140  
 Val Ile Gly Arg Ile Gly Leu Val Ser Leu Gly Arg Ser Val Ala Leu  
 145                      150                      155                      160  
 Ile Phe Pro Leu Pro Phe Met Leu Lys Arg Phe Pro Tyr Cys Gly Ser  
                     165                      170                      175  
 Pro Val Leu Ser His Ser Tyr Cys Leu His Gln Glu Val Met Lys Leu  
                     180                      185                      190  
 Ala Cys Ala Asp Met Lys Ala Asn Ser Ile Tyr Gly Met Phe Val Ile  
                     195                      200                      205  
 Val Ser Thr Val Gly Ile Asp Ser Leu Leu Ile Leu Phe Ser Tyr Ala  
                     210                      215                      220  
 Leu Ile Leu Arg Thr Val Leu Ser Ile Ala Ser Arg Ala Glu Arg Phe  
 225                      230                      235                      240  
 Lys Ala Leu Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe  
                     245                      250                      255  
 Tyr Thr Pro Met Ile Gly Leu Ser Val Ile His Arg Phe Gly Lys Gln  
                     260                      265                      270  
 Ala Pro His Leu Val Gln Val Val Met Gly Phe Met Tyr Leu Leu Phe  
                     275                      280                      285  
 Pro Pro Val Met Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile  
                     290                      295                      300  
 Arg Asp Arg Val Thr His Ala Phe Cys Tyr  
 305                      310

<210> 449  
 <211> 942  
 <212> DNA  
 <213> Homo Sapiens

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 Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu

48

1	5	10	15	
gtt ggg atg cca ggg cta gaa tat gca cac atc tgg atc tct atc ccc				96
Val Gly Met	Pro Gly Leu Glu Tyr	Ala His Ile Trp	Ile Ser Ile Pro	
	20	25	30	
atc tgc agc atg tat ctt att gct att cta gga aat tgc acc att ctt				144
Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Cys Thr Ile Leu				
	35	40	45	
ttt atc atc aag aca gag ccc tcc ttg cat gag ccc atg tac tat ttt				192
Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe				
	50	55	60	
ctt tcc atg ttg gct atg tca gac ttg ggt ttg tct tta tca tct ctg				240
Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu				
	65	70	75	80
ccc act gtg tta agc atc ttc ctg ttc aat gct cct gaa att tca tcc				288
Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser				
	85	90	95	
aat gcc tgc ttt gcc cag gaa ttc ttc att cat gga ttc tca gta ctg				336
Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu				
	100	105	110	
gag tcc tca gtc ctc ctg atc atg tca ttt gat aga ttc cta gcc atc				384
Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile				
	115	120	125	
cac aac cct ctg aga tac acc tca atc ctg aca act gtc aga gtt gcc				432
His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala				
	130	135	140	
caa ata ggg ata gta ttc tcc ttt aag agc atg ctc ctg gtt ctt ccc				480
Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro				
	145	150	155	160
ttc cct ttc act tta aga aac ttg aga tat tgc aag aaa aac caa tta				528
Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu				
	165	170	175	
tcc cat tcc tac tgt ctc cac cag gat gtc atg aag ttg gcc tgt tct				576
Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser				
	180	185	190	
gac aac aga att gat gtt atc tat ggc ttt ttt gga gca ctc tgc ctt				624
Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu				
	195	200	205	
atg gta gac ttt att ctc att gct gtg tct tac acc ctg atc ctc aag				672
Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys				
	210	215	220	
act gta ccg gga att gca tcc aaa aag gag cag ctt aag gct ctc aat				720
Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn				
	225	230	235	240
act tgt gtt tca cac atc tgt gca gtg atc atc ttc tac ctg ccc atc				768
Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile				
	245	250	255	

atc aac ctg gcc gtt gtc cac cgc ttt gcc cgg cat gtc tct ccc ctc 816  
 Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu  
                   260                                  265                                  270

att aat gtt ctc atg gca aat gtt ctc cta ctt gta cct cca ctg atg 864  
 Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met  
                   275                                  280                                  285

aac cca att gtt tat tgt gta aaa act aaa cag att aga gtg aga gtt 912  
 Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val  
                   290                                  295                                  300

gta gca aaa ttg tgt caa cgg aag att taa 942  
 Val Ala Lys Leu Cys Gln Arg Lys Ile  
                   305                                  310

<210> 450

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 450

Met Ser Ile Ile Asn Thr Ser Tyr Val Glu Ile Thr Thr Phe Phe Leu  
 1                                  5                                  10                                  15

Val Gly Met Pro Gly Leu Glu Tyr Ala His Ile Trp Ile Ser Ile Pro  
                   20                                  25                                  30

Ile Cys Ser Met Tyr Leu Ile Ala Ile Leu Gly Asn Cys Thr Ile Leu  
                   35                                  40                                  45

Phe Ile Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe  
                   50                                  55                                  60

Leu Ser Met Leu Ala Met Ser Asp Leu Gly Leu Ser Leu Ser Ser Leu  
                   65                                  70                                  75                                  80

Pro Thr Val Leu Ser Ile Phe Leu Phe Asn Ala Pro Glu Ile Ser Ser  
                   85                                  90                                  95

Asn Ala Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Ser Val Leu  
                   100                                  105                                  110

Glu Ser Ser Val Leu Leu Ile Met Ser Phe Asp Arg Phe Leu Ala Ile  
                   115                                  120                                  125

His Asn Pro Leu Arg Tyr Thr Ser Ile Leu Thr Thr Val Arg Val Ala  
                   130                                  135                                  140

Gln Ile Gly Ile Val Phe Ser Phe Lys Ser Met Leu Leu Val Leu Pro  
 145 150 155 160

Phe Pro Phe Thr Leu Arg Asn Leu Arg Tyr Cys Lys Lys Asn Gln Leu  
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Ser  
 180 185 190

Asp Asn Arg Ile Asp Val Ile Tyr Gly Phe Phe Gly Ala Leu Cys Leu  
 195 200 205

Met Val Asp Phe Ile Leu Ile Ala Val Ser Tyr Thr Leu Ile Leu Lys  
 210 215 220

Thr Val Pro Gly Ile Ala Ser Lys Lys Glu Gln Leu Lys Ala Leu Asn  
 225 230 235 240

Thr Cys Val Ser His Ile Cys Ala Val Ile Ile Phe Tyr Leu Pro Ile  
 245 250 255

Ile Asn Leu Ala Val Val His Arg Phe Ala Arg His Val Ser Pro Leu  
 260 265 270

Ile Asn Val Leu Met Ala Asn Val Leu Leu Leu Val Pro Pro Leu Met  
 275 280 285

Asn Pro Ile Val Tyr Cys Val Lys Thr Lys Gln Ile Arg Val Arg Val  
 290 295 300

Val Ala Lys Leu Cys Gln Arg Lys Ile  
 305 310

<210> 451  
 <211> 966  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(963)  
 <223>

<400> 451  
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 Met Thr Ile Leu Leu Asn Ser Ser Leu Gln Arg Ala Thr Phe Phe Leu  
 1 5 10 15  
 acg ggc ttc caa ggt cta gaa ggt ctc cat ggc tgg atc tct att ccc 96

Thr	Gly	Phe	Gln	Gly	Leu	Glu	Gly	Leu	His	Gly	Trp	Ile	Ser	Ile	Pro		
			20					25					30				
ttc	tgc	ttc	atc	tac	ctg	aca	ggt	atc	ttg	ggg	aac	ctc	acc	att	ctc		144
Phe	Cys	Phe	Ile	Tyr	Leu	Thr	Val	Ile	Leu	Gly	Asn	Leu	Thr	Ile	Leu		
		35					40				45						
cac	gtc	att	tgt	act	gat	gcc	act	ctc	cat	gga	ccc	atg	tac	tat	ttc		192
His	Val	Ile	Cys	Thr	Asp	Ala	Thr	Leu	His	Gly	Pro	Met	Tyr	Tyr	Phe		
	50					55					60						
ttg	ggc	atg	cta	gct	gtc	aca	gac	tta	ggc	ctt	tgc	ctt	tcc	aca	ctg		240
Leu	Gly	Met	Leu	Ala	Val	Thr	Asp	Leu	Gly	Leu	Cys	Leu	Ser	Thr	Leu		
65					70				75					80			
ccc	act	gtg	ctg	ggc	att	ttc	tgg	ttt	gat	acc	aga	gag	att	ggc	atc		288
Pro	Thr	Val	Leu	Gly	Ile	Phe	Trp	Phe	Asp	Thr	Arg	Glu	Ile	Gly	Ile		
			85					90						95			
cct	gcc	tgt	ttc	act	cag	ctc	ttc	ttc	atc	cac	acc	ttg	tct	tca	atg		336
Pro	Ala	Cys	Phe	Thr	Gln	Leu	Phe	Phe	Ile	His	Thr	Leu	Ser	Ser	Met		
			100					105					110				
gag	tca	tca	ggt	ctg	tta	tcc	atg	tcc	att	gac	cgc	tcc	gtg	gcc	gtc		384
Glu	Ser	Ser	Val	Leu	Leu	Ser	Met	Ser	Ile	Asp	Arg	Ser	Val	Ala	Val		
		115					120					125					
tgc	aac	cca	ctg	cat	gac	tcc	acc	gtc	ctg	aca	cct	gca	tgt	att	gtc		432
Cys	Asn	Pro	Leu	His	Asp	Ser	Thr	Val	Leu	Thr	Pro	Ala	Cys	Ile	Val		
	130					135					140						
aag	atg	ggg	cta	agc	tca	gtg	ctt	aga	agt	gct	ctc	ctc	atc	ctc	ccc		480
Lys	Met	Gly	Leu	Ser	Ser	Val	Leu	Arg	Ser	Ala	Leu	Leu	Ile	Leu	Pro		
145					150				155					160			
ttg	cca	ttc	ctc	ctg	aag	cgc	ttc	caa	tac	tgc	cac	tcc	cat	gtg	ctg		528
Leu	Pro	Phe	Leu	Leu	Lys	Arg	Phe	Gln	Tyr	Cys	His	Ser	His	Val	Leu		
			165					170						175			
gct	cat	gct	tat	tgt	ctt	cac	ctg	gag	atc	atg	aag	ctg	gcc	tgc	tct		576
Ala	His	Ala	Tyr	Cys	Leu	His	Leu	Glu	Ile	Met	Lys	Leu	Ala	Cys	Ser		
			180					185					190				
agc	atc	att	gtc	aat	cac	atc	tat	ggg	ctc	ttt	gtt	gtg	gcc	tgc	acc		624
Ser	Ile	Ile	Val	Asn	His	Ile	Tyr	Gly	Leu	Phe	Val	Val	Ala	Cys	Thr		
		195					200					205					
gtg	ggt	gtg	gac	tcc	ctg	ctc	atc	ttt	ctc	tca	tac	gcc	ctc	atc	ctt		672
Val	Gly	Val	Asp	Ser	Leu	Leu	Ile	Phe	Leu	Ser	Tyr	Ala	Leu	Ile	Leu		
	210					215					220						
cgc	acc	gtg	ctc	agc	att	gcc	tcc	cac	cag	gag	cga	ctc	cga	gcc	ctc		720
Arg	Thr	Val	Leu	Ser	Ile	Ala	Ser	His	Gln	Glu	Arg	Leu	Arg	Ala	Leu		
225					230					235				240			
aac	acc	tgt	gtc	tct	cat	atc	tgt	gct	gta	ctg	ctc	ttc	tac	atc	ccc		768
Asn	Thr	Cys	Val	Ser	His	Ile	Cys	Ala	Val	Leu	Leu	Phe	Tyr	Ile	Pro		
				245				250					255				
atg	att	ggc	ttg	tct	ctt	gtg	cat	cgc	ttt	ggt	gaa	cat	ctg	ccc	cgc		816
Met	Ile	Gly	Leu	Ser	Leu	Val	His	Arg	Phe	Gly	Glu	His	Leu	Pro	Arg		

260							265					270					
gtt	gta	cac	ctc	ttc	atg	tcc	tat	gtg	tat	ctg	ctg	gta	cca	ccc	ctt	864	
Val	Val	His	Leu	Phe	Met	Ser	Tyr	Val	Tyr	Leu	Leu	Val	Pro	Pro	Leu		
275							280					285					
atg	aac	ccc	atc	atc	tac	agc	atc	aag	acc	aag	caa	att	cgc	cag	cgc	912	
Met	Asn	Pro	Ile	Ile	Tyr	Ser	Ile	Lys	Thr	Lys	Gln	Ile	Arg	Gln	Arg		
290							295					300					
atc	att	aag	aag	ttt	cag	ttt	ata	aag	tca	ctt	agg	tgt	ttt	tgg	aag	960	
Ile	Ile	Lys	Lys	Phe	Gln	Phe	Ile	Lys	Ser	Leu	Arg	Cys	Phe	Trp	Lys		
305				310					315					320			
gat	taa															966	
Asp																	

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<210> 452
<211> 321
<212> PRT
<213> Homo Sapiens

<400> 452
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Met Thr Ile Leu Leu Asn Ser Ser Leu Gln Arg Ala Thr Phe Phe Leu  
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Thr Gly Phe Gln Gly Leu Glu Gly Leu His Gly Trp Ile Ser Ile Pro  
20 25 30

Phe Cys Phe Ile Tyr Leu Thr Val Ile Leu Gly Asn Leu Thr Ile Leu  
35 40 45

His Val Ile Cys Thr Asp Ala Thr Leu His Gly Pro Met Tyr Tyr Phe  
50 55 60

Leu Gly Met Leu Ala Val Thr Asp Leu Gly Leu Cys Leu Ser Thr Leu  
65 70 75 80

Pro Thr Val Leu Gly Ile Phe Trp Phe Asp Thr Arg Glu Ile Gly Ile  
85 90 95

Pro Ala Cys Phe Thr Gln Leu Phe Phe Ile His Thr Leu Ser Ser Met  
100 105 110

Glu Ser Ser Val Leu Leu Ser Met Ser Ile Asp Arg Ser Val Ala Val  
115 120 125

Cys Asn Pro Leu His Asp Ser Thr Val Leu Thr Pro Ala Cys Ile Val  
130 135 140

Lys Met Gly Leu Ser Ser Val Leu Arg Ser Ala Leu Leu Ile Leu Pro  
 145 150 155 160

Leu Pro Phe Leu Leu Lys Arg Phe Gln Tyr Cys His Ser His Val Leu  
 165 170 175

Ala His Ala Tyr Cys Leu His Leu Glu Ile Met Lys Leu Ala Cys Ser  
 180 185 190

Ser Ile Ile Val Asn His Ile Tyr Gly Leu Phe Val Val Ala Cys Thr  
 195 200 205

Val Gly Val Asp Ser Leu Leu Ile Phe Leu Ser Tyr Ala Leu Ile Leu  
 210 215 220

Arg Thr Val Leu Ser Ile Ala Ser His Gln Glu Arg Leu Arg Ala Leu  
 225 230 235 240

Asn Thr Cys Val Ser His Ile Cys Ala Val Leu Leu Phe Tyr Ile Pro  
 245 250 255

Met Ile Gly Leu Ser Leu Val His Arg Phe Gly Glu His Leu Pro Arg  
 260 265 270

Val Val His Leu Phe Met Ser Tyr Val Tyr Leu Leu Val Pro Pro Leu  
 275 280 285

Met Asn Pro Ile Ile Tyr Ser Ile Lys Thr Lys Gln Ile Arg Gln Arg  
 290 295 300

Ile Ile Lys Lys Phe Gln Phe Ile Lys Ser Leu Arg Cys Phe Trp Lys  
 305 310 315 320

Asp

<210> 453  
 <211> 909  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (906)  
 <223>

<400> 453



atg acg aac ttg aat gca tca cag gcc aac cac cgt aac ttc att ctg	48
Met Thr Asn Leu Asn Ala Ser Gln Ala Asn His Arg Asn Phe Ile Leu	
1 5 10 15	
aca ggt atc cca gga acg cca gac aag aac cca tgg ttg gcc ttt ccc	96
Thr Gly Ile Pro Gly Thr Pro Asp Lys Asn Pro Trp Leu Ala Phe Pro	
20 25 30	
ctg gga ttt ctc tac aca ctc aca ctc ctg gga aat ggt acc atc cta	144
Leu Gly Phe Leu Tyr Thr Leu Thr Leu Leu Gly Asn Gly Thr Ile Leu	
35 40 45	
gct gtc atc aag gtg gag cca agt ctc cat gag ccc acg tat tac ttc	192
Ala Val Ile Lys Val Glu Pro Ser Leu His Glu Pro Thr Tyr Tyr Phe	
50 55 60	
ctt tct atc ttg gct ctc act gac gtt agt ctc tcc atg tcc acc ttg	240
Leu Ser Ile Leu Ala Leu Thr Asp Val Ser Leu Ser Met Ser Thr Leu	
65 70 75 80	
ccc tcc atg ctc agc atc tac tgg ttt aat gcc cct cag att gtt ttt	288
Pro Ser Met Leu Ser Ile Tyr Trp Phe Asn Ala Pro Gln Ile Val Phe	
85 90 95	
gat gca tgc atc atg cag atg ttc ttc atc cat gta ttt gga ata gta	336
Asp Ala Cys Ile Met Gln Met Phe Phe Ile His Val Phe Gly Ile Val	
100 105 110	
gaa tca gga gtc cta gtg tcc atg gcc ttt gac aga ttt gtg gcc atc	384
Glu Ser Gly Val Leu Val Ser Met Ala Phe Asp Arg Phe Val Ala Ile	
115 120 125	
cga aac cca tta cac tat gtt tcc atc ctc act cac gat gtt att cga	432
Arg Asn Pro Leu His Tyr Val Ser Ile Leu Thr His Asp Val Ile Arg	
130 135 140	
aag act gga ata tct gtc ctc acc cgg gca gtc tgt gtg gta ttc cct	480
Lys Thr Gly Ile Ser Val Leu Thr Arg Ala Val Cys Val Val Phe Pro	
145 150 155 160	
gtg ccc ttc ctt ata aag tgc cta ccc ttc tgc cat tcc aat gtc ttg	528
Val Pro Phe Leu Ile Lys Cys Leu Pro Phe Cys His Ser Asn Val Leu	
165 170 175	
tct cat tca tac tgt ctt cac caa aac atg atg cgg cta gct tgt gcc	576
Ser His Ser Tyr Cys Leu His Gln Asn Met Met Arg Leu Ala Cys Ala	
180 185 190	
agc acc cgc atc aac agc ctc tac ggc ctc atc gtc gtc atc ttc aca	624
Ser Thr Arg Ile Asn Ser Leu Tyr Gly Leu Ile Val Val Ile Phe Thr	
195 200 205	
ctg ggg ctc gat gtt ctc ctc act cta ctg tct tat gta ctc acc ctg	672
Leu Gly Leu Asp Val Leu Leu Thr Leu Leu Ser Tyr Val Leu Thr Leu	
210 215 220	
aag act gtg ctg ggc att gtc tcc aga ggt gaa agg ctg aaa acc ctc	720
Lys Thr Val Leu Gly Ile Val Ser Arg Gly Glu Arg Leu Lys Thr Leu	
225 230 235 240	
agc aca tgc ctc tct cac atg tct acc gtg ctc ctc ttc tat gtt cct	768

Ser	Thr	Cys	Leu	Ser	His	Met	Ser	Thr	Val	Leu	Leu	Phe	Tyr	Val	Pro	
				245					250					255		
ttt	atg	ggt	gct	gcc	tcc	atg	atc	cac	aga	ttt	tgg	gag	cat	tta	tca	816
Phe	Met	Gly	Ala	Ala	Ser	Met	Ile	His	Arg	Phe	Trp	Glu	His	Leu	Ser	
				260					265					270		
cca	gta	gtg	cac	atg	gtc	atg	gct	gat	ata	tac	cta	ctg	ctc	ccg	cct	864
Pro	Val	Val	His	Met	Val	Met	Ala	Asp	Ile	Tyr	Leu	Leu	Leu	Pro	Pro	
				275					280					285		
gtg	cta	aac	ccc	att	gtc	tac	agt	gtg	aag	acc	aag	caa	att	tga		909
Val	Leu	Asn	Pro	Ile	Val	Tyr	Ser	Val	Lys	Thr	Lys	Gln	Ile			
				290					295					300		

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<210> 454
<211> 302
<212> PRT
<213> Homo Sapiens
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<400> 454

Met Thr Asn Leu Asn Ala Ser Gln Ala Asn His Arg Asn Phe Ile Leu  
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Thr Gly Ile Pro Gly Thr Pro Asp Lys Asn Pro Trp Leu Ala Phe Pro  
20 25 30

Leu Gly Phe Leu Tyr Thr Leu Thr Leu Leu Gly Asn Gly Thr Ile Leu  
35 40 45

Ala Val Ile Lys Val Glu Pro Ser Leu His Glu Pro Thr Tyr Tyr Phe  
50 55 60

Leu Ser Ile Leu Ala Leu Thr Asp Val Ser Leu Ser Met Ser Thr Leu  
65 70 75 80

Pro Ser Met Leu Ser Ile Tyr Trp Phe Asn Ala Pro Gln Ile Val Phe  
85 90 95

Asp Ala Cys Ile Met Gln Met Phe Phe Ile His Val Phe Gly Ile Val  
100 105 110

Glu Ser Gly Val Leu Val Ser Met Ala Phe Asp Arg Phe Val Ala Ile  
115 120 125

Arg Asn Pro Leu His Tyr Val Ser Ile Leu Thr His Asp Val Ile Arg  
130 135 140

Lys Thr Gly Ile Ser Val Leu Thr Arg Ala Val Cys Val Val Phe Pro  
145 150 155 160

Val Pro Phe Leu Ile Lys Cys Leu Pro Phe Cys His Ser Asn Val Leu  
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asn Met Met Arg Leu Ala Cys Ala  
 180 185 190

Ser Thr Arg Ile Asn Ser Leu Tyr Gly Leu Ile Val Val Ile Phe Thr  
 195 200 205

Leu Gly Leu Asp Val Leu Leu Thr Leu Leu Ser Tyr Val Leu Thr Leu  
 210 215 220

Lys Thr Val Leu Gly Ile Val Ser Arg Gly Glu Arg Leu Lys Thr Leu  
 225 230 235 240

Ser Thr Cys Leu Ser His Met Ser Thr Val Leu Leu Phe Tyr Val Pro  
 245 250 255

Phe Met Gly Ala Ala Ser Met Ile His Arg Phe Trp Glu His Leu Ser  
 260 265 270

Pro Val Val His Met Val Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro  
 275 280 285

Val Leu Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile  
 290 295 300

<210> 455  
 <211> 939  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(936)  
 <223>

<400> 455  
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 Met Ser Val Leu Asn Asn Ser Glu Val Lys Leu Phe Leu Leu Ile Gly  
 1 5 10 15

atc cca gga ctg gaa cat gcc cac att tgg ttc tcc atc ccc att tgc 96  
 Ile Pro Gly Leu Glu His Ala His Ile Trp Phe Ser Ile Pro Ile Cys  
 20 25 30

ctc atg tac ctg ctt gcc atc atg ggc aac tgc acc att ctc ttt att 144  
 Leu Met Tyr Leu Leu Ala Ile Met Gly Asn Cys Thr Ile Leu Phe Ile  
 35 40 45

ata aag aca gag ccc tcg ctt cat gag ccc atg tat tat ttc ctt gcc	192
Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala	
50 55 60	
atg ttg gct gtc tct gac atg ggc ctg tcc ctc tcc tcc ctt cct acc	240
Met Leu Ala Val Ser Asp Met Gly Leu Ser Leu Ser Ser Leu Pro Thr	
65 70 75 80	
atg ttg agg gtc ttc ttg ttc aat gcc atg gga att tca cct aat gcc	288
Met Leu Arg Val Phe Leu Phe Asn Ala Met Gly Ile Ser Pro Asn Ala	
85 90 95	
tgc ttt gct caa gaa ttc ttc att cat gga ttc act gtc atg gaa tcc	336
Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Thr Val Met Glu Ser	
100 105 110	
tca gta ctt cta att atg tct ttg gac cgc ttt ctt gcc att cac aat	384
Ser Val Leu Leu Ile Met Ser Leu Asp Arg Phe Leu Ala Ile His Asn	
115 120 125	
ccc tta aga tac agt tct atc ctc act agc aac agg gtt gct aaa atg	432
Pro Leu Arg Tyr Ser Ser Ile Leu Thr Ser Asn Arg Val Ala Lys Met	
130 135 140	
gga ctt att tta gcc att agg agc att ctc tta gtg att cca ttt ccc	480
Gly Leu Ile Leu Ala Ile Arg Ser Ile Leu Leu Val Ile Pro Phe Pro	
145 150 155 160	
ttc acc tta agg aga tta aaa tat tgt caa aag aat ctt ctt tct cac	528
Phe Thr Leu Arg Arg Leu Lys Tyr Cys Gln Lys Asn Leu Leu Ser His	
165 170 175	
tca tac tgt ctt cat cag gat acc atg aag ctg gcc tgc tct gac aac	576
Ser Tyr Cys Leu His Gln Asp Thr Met Lys Leu Ala Cys Ser Asp Asn	
180 185 190	
aag acc aat gtc atc tat ggc ttc ttc att gct ctc tgt act atg ctg	624
Lys Thr Asn Val Ile Tyr Gly Phe Phe Ile Ala Leu Cys Thr Met Leu	
195 200 205	
gac ttg gca ctg att gtt ttg tct tat gtg ctg atc ttg aag act ata	672
Asp Leu Ala Leu Ile Val Leu Ser Tyr Val Leu Ile Leu Lys Thr Ile	
210 215 220	
ctc agc att gca tct ttg gca gag agg ctt aag gcc cta aat acc tgt	720
Leu Ser Ile Ala Ser Leu Ala Glu Arg Leu Lys Ala Leu Asn Thr Cys	
225 230 235 240	
gtc tcc cac atc tgt gct gtg ctc acc ttc tat gtg ccc atc atc acc	768
Val Ser His Ile Cys Ala Val Leu Thr Phe Tyr Val Pro Ile Ile Thr	
245 250 255	
ctg gct gcc atg cat cac ttt gcc aag cac aaa agc cct ctt gtt gtg	816
Leu Ala Ala Met His His Phe Ala Lys His Lys Ser Pro Leu Val Val	
260 265 270	
atc ctt att gca gat atg ttc ttg ttg gtg ccg ccc ctt atg aac ccc	864
Ile Leu Ile Ala Asp Met Phe Leu Leu Val Pro Pro Leu Met Asn Pro	
275 280 285	

att gtg tac tgt gta aag act cga caa atc tgg gag aag atc ttg ggg 912  
 ile Val Tyr Cys Val Lys Thr Arg Gln Ile Trp Glu Lys Ile Leu Gly  
 290 295 300

aag ttg ctt aat gta tgt ggg aga taa 939  
 Lys Leu Leu Asn Val Cys Gly Arg  
 305 310

<210> 456

<211> 312

<212> PRT

<213> Homo Sapiens

<400> 456

Met Ser Val Leu Asn Asn Ser Glu Val Lys Leu Phe Leu Leu Ile Gly  
 1 5 10 15

Ile Pro Gly Leu Glu His Ala His Ile Trp Phe Ser Ile Pro Ile Cys  
 20 25 30

Leu Met Tyr Leu Leu Ala Ile Met Gly Asn Cys Thr Ile Leu Phe Ile  
 35 40 45

Ile Lys Thr Glu Pro Ser Leu His Glu Pro Met Tyr Tyr Phe Leu Ala  
 50 55 60

Met Leu Ala Val Ser Asp Met Gly Leu Ser Leu Ser Ser Leu Pro Thr  
 65 70 75 80

Met Leu Arg Val Phe Leu Phe Asn Ala Met Gly Ile Ser Pro Asn Ala  
 85 90 95

Cys Phe Ala Gln Glu Phe Phe Ile His Gly Phe Thr Val Met Glu Ser  
 100 105 110

Ser Val Leu Leu Ile Met Ser Leu Asp Arg Phe Leu Ala Ile His Asn  
 115 120 125

Pro Leu Arg Tyr Ser Ser Ile Leu Thr Ser Asn Arg Val Ala Lys Met  
 130 135 140

Gly Leu Ile Leu Ala Ile Arg Ser Ile Leu Leu Val Ile Pro Phe Pro  
 145 150 155 160

Phe Thr Leu Arg Arg Leu Lys Tyr Cys Gln Lys Asn Leu Leu Ser His  
 165 170 175

Ser Tyr Cys Leu His Gln Asp Thr Met Lys Leu Ala Cys Ser Asp Asn

<400>	457															
atg	cca	cac	ctc	agc	aac	acc	aca	tct	gag	ttc	cca	atc	ttc	ctc	cta	48
Met	Pro	His	Leu	Ser	Asn	Thr	Thr	Ser	Glu	Phe	Pro	Ile	Phe	Leu	Leu	
1				5					10					15		
aca	ggc	ttc	cct	ggg	ctg	gag	gcc	ttc	cac	atc	tgg	atc	tca	att	ccc	96
Thr	Gly	Phe	Pro	Gly	Leu	Glu	Ala	Phe	His	Ile	Trp	Ile	Ser	Ile	Pro	
			20					25					30			
ttc	ttc	ctt	ctg	agc	aca	gtt	gct	ctc	tta	ggg	aac	agc	atg	atc	cta	144
Phe	Phe	Leu	Leu	Ser	Thr	Val	Ala	Leu	Leu	Gly	Asn	Ser	Met	Ile	Leu	
		35					40					45				
ttg	gtt	gtt	att	ctg	gag	cca	aac	ctc	cat	gaa	ccc	atg	tac	tgt	ttt	192
Leu	Val	Val	Ile	Leu	Glu	Pro	Asn	Leu	His	Glu	Pro	Met	Tyr	Cys	Phe	

50	55	60	
ctc ttc atg ctg tct gcc gct gac ctg ggg ctg acc ctc tcc aca atg Leu Phe Met Leu Ser Ala Ala Asp Leu Gly Leu Thr Leu Ser Thr Met 65 70 75 80			240
ccc acg acc ctc agt gtc ctc tgg ttc agt gca cgt gaa atc atc ctc Pro Thr Thr Leu Ser Val Leu Trp Phe Ser Ala Arg Glu Ile Ile Leu 85 90 95			288
aat gca tgt atc atc cag ctc ttt ttc ctc cac agc tct ggc ttt atg Asn Ala Cys Ile Ile Gln Leu Phe Phe Leu His Ser Ser Gly Phe Met 100 105 110			336
gaa tcc tca gta ctg atg gcc atg gct ttt gac cgc ttt gtt gcc att Glu Ser Ser Val Leu Met Ala Met Ala Phe Asp Arg Phe Val Ala Ile 115 120 125			384
tgc aga ccc ctc aga tat gct acc atc ctg aca gac tcc aga att cta Cys Arg Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asp Ser Arg Ile Leu 130 135 140			432
aag att ggt gta gca ata gtc cta aga aca ttg atc agc ctc tct cca Lys Ile Gly Val Ala Ile Val Leu Arg Thr Leu Ile Ser Leu Ser Pro 145 150 155 160			480
tcc ctc ttt ctc att aag aga ctg tca ttt tgc aaa gtc aat gtc ctt Ser Leu Phe Leu Ile Lys Arg Leu Ser Phe Cys Lys Val Asn Val Leu 165 170 175			528
tcc cat tct tac tgc ttc cac cct gat gcg ctt aaa gtt gca tgt tct Ser His Ser Tyr Cys Phe His Pro Asp Ala Leu Lys Val Ala Cys Ser 180 185 190			576
gat tca agg atg aac agc tat gga ggc tta gct gtt ctc att ctg gtc Asp Ser Arg Met Asn Ser Tyr Gly Gly Leu Ala Val Leu Ile Leu Val 195 200 205			624
acc ggg gtt ggt aca cca tgt gtt gcg ctt tcc tac atc ctg ata atc Thr Gly Val Gly Thr Pro Cys Val Ala Leu Ser Tyr Ile Leu Ile Ile 210 215 220			672
cac tct gta cta aac atc atc tct tca gag gga cgg agg aag gcc ttc His Ser Val Leu Asn Ile Ile Ser Ser Glu Gly Arg Arg Lys Ala Phe 225 230 235 240			720
gac act tgt gga tct cac att ggg gca gtt gca gtc ttc tac att ccc Asp Thr Cys Gly Ser His Ile Gly Ala Val Ala Val Phe Tyr Ile Pro 245 250 255			768
tgg gtt gtt ctt tca gtt gtc cac aga ttt ttc cac aag gct tca cca Trp Val Val Leu Ser Val Val His Arg Phe Phe His Lys Ala Ser Pro 260 265 270			816
ata tgt cca ccc act att gtc caa cat cta ttt cct tgg ccc ctc tcg Ile Cys Pro Pro Thr Ile Val Gln His Leu Phe Pro Trp Pro Leu Ser 275 280 285			864
gct gaa ccc cat cat ata tag Ala Glu Pro His His Ile 290			885

<210> 458  
 <211> 294  
 <212> PRT  
 <213> Homo Sapiens

<400> 458

Met Pro His Leu Ser Asn Thr Thr Ser Glu Phe Pro Ile Phe Leu Leu  
 1 5 10 15

Thr Gly Phe Pro Gly Leu Glu Ala Phe His Ile Trp Ile Ser Ile Pro  
 20 25 30

Phe Phe Leu Leu Ser Thr Val Ala Leu Leu Gly Asn Ser Met Ile Leu  
 35 40 45

Leu Val Val Ile Leu Glu Pro Asn Leu His Glu Pro Met Tyr Cys Phe  
 50 55 60

Leu Phe Met Leu Ser Ala Ala Asp Leu Gly Leu Thr Leu Ser Thr Met  
 65 70 75 80

Pro Thr Thr Leu Ser Val Leu Trp Phe Ser Ala Arg Glu Ile Ile Leu  
 85 90 95

Asn Ala Cys Ile Ile Gln Leu Phe Phe Leu His Ser Ser Gly Phe Met  
 100 105 110

Glu Ser Ser Val Leu Met Ala Met Ala Phe Asp Arg Phe Val Ala Ile  
 115 120 125

Cys Arg Pro Leu Arg Tyr Ala Thr Ile Leu Thr Asp Ser Arg Ile Leu  
 130 135 140

Lys Ile Gly Val Ala Ile Val Leu Arg Thr Leu Ile Ser Leu Ser Pro  
 145 150 155 160

Ser Leu Phe Leu Ile Lys Arg Leu Ser Phe Cys Lys Val Asn Val Leu  
 165 170 175

Ser His Ser Tyr Cys Phe His Pro Asp Ala Leu Lys Val Ala Cys Ser  
 180 185 190

Asp Ser Arg Met Asn Ser Tyr Gly Gly Leu Ala Val Leu Ile Leu Val  
 195 200 205



Thr Gly Val Gly Thr Pro Cys Val Ala Leu Ser Tyr Ile Leu Ile Ile  
 210 215 220

His Ser Val Leu Asn Ile Ile Ser Ser Glu Gly Arg Arg Lys Ala Phe  
 225 230 235 240

Asp Thr Cys Gly Ser His Ile Gly Ala Val Ala Val Phe Tyr Ile Pro  
 245 250 255

Trp Val Val Leu Ser Val Val His Arg Phe Phe His Lys Ala Ser Pro  
 260 265 270

Ile Cys Pro Pro Thr Ile Val Gln His Leu Phe Pro Trp Pro Leu Ser  
 275 280 285

Ala Glu Pro His His Ile  
 290

<210> 459  
 <211> 984  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(981)  
 <223>

<400> 459  
 atg gca ata ttc aat aac acc act tcg tct tcc tca aac ttc ctc ctc 48  
 Met Ala Ile Phe Asn Asn Thr Thr Ser Ser Ser Ser Asn Phe Leu Leu  
 1 5 10 15  
 act gca ttc cct ggg ctg gaa tgt gct cat gtc tgg atc tcc att cca 96  
 Thr Ala Phe Pro Gly Leu Glu Cys Ala His Val Trp Ile Ser Ile Pro  
 20 25 30  
 gtc tgc tgt ctc tac acc att gcc ctc ttg gga aac agt atg atc ttt 144  
 Val Cys Cys Leu Tyr Thr Ile Ala Leu Leu Gly Asn Ser Met Ile Phe  
 35 40 45  
 ctt gtc atc att act aag cgg aga ctc cac aaa ccc atg tat tat ttc 192  
 Leu Val Ile Ile Thr Lys Arg Arg Leu His Lys Pro Met Tyr Tyr Phe  
 50 55 60  
 ctc tcc atg ctg gca gct gtt gat cta tgt ctg acc att acg acc ctt 240  
 Leu Ser Met Leu Ala Ala Val Asp Leu Cys Leu Thr Ile Thr Thr Leu  
 65 70 75 80  
 ccc act gtg ctt ggt gtt ctc tgg ttt cat gcc cgg gag atc agc ttt 288  
 Pro Thr Val Leu Gly Val Leu Trp Phe His Ala Arg Glu Ile Ser Phe  
 85 90 95  
 aaa gct tgc ttc att caa atg ttc ttt gtg cat gct ttc tcc ttg ctg 336

Lys	Ala	Cys	Phe	Ile	Gln	Met	Phe	Phe	Val	His	Ala	Phe	Ser	Leu	Leu		
			100					105					110				
gag	tcc	tcg	gtg	ctg	gta	gcc	atg	gcc	ttt	gac	cgc	ttc	gtg	gct	atc	384	
Glu	Ser	Ser	Val	Leu	Val	Ala	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile		
			115				120					125					
tgt	aac	cca	ctg	aac	tat	gct	act	atc	ctc	aca	gac	agg	atg	gtc	ctg	432	
Cys	Asn	Pro	Leu	Asn	Tyr	Ala	Thr	Ile	Leu	Thr	Asp	Arg	Met	Val	Leu		
			130			135					140						
gtg	ata	ggg	ctg	gtc	atc	tgc	att	aga	cca	gca	gtt	ttc	tta	ctt	ccc	480	
Val	Ile	Gly	Leu	Val	Ile	Cys	Ile	Arg	Pro	Ala	Val	Phe	Leu	Leu	Pro		
145					150					155					160		
ctt	ctt	gta	gcc	ata	aac	act	gtg	tct	ttt	cat	ggg	ggg	cac	gag	ctt	528	
Leu	Leu	Val	Ala	Ile	Asn	Thr	Val	Ser	Phe	His	Gly	Gly	His	Glu	Leu		
				165					170					175			
tcc	cat	cca	ttt	tgc	tac	cac	cca	gaa	gtg	atc	aaa	tac	aca	tat	tcc	576	
Ser	His	Pro	Phe	Cys	Tyr	His	Pro	Glu	Val	Ile	Lys	Tyr	Thr	Tyr	Ser		
			180					185					190				
aaa	cct	tgg	atc	agc	agt	ttt	tgg	gga	ctg	ttt	ctt	cag	ctc	tac	ctg	624	
Lys	Pro	Trp	Ile	Ser	Ser	Phe	Trp	Gly	Leu	Phe	Leu	Gln	Leu	Tyr	Leu		
		195					200					205					
aat	ggc	act	gac	gta	ttg	ttt	att	ctt	ttc	tcc	tat	gtc	ctg	atc	ctc	672	
Asn	Gly	Thr	Asp	Val	Leu	Phe	Ile	Leu	Phe	Ser	Tyr	Val	Leu	Ile	Leu		
		210				215					220						
cgt	act	gtt	ctg	ggc	att	gtg	gcc	cga	aag	aag	caa	caa	aaa	gct	ctc	720	
Arg	Thr	Val	Leu	Gly	Ile	Val	Ala	Arg	Lys	Lys	Gln	Gln	Lys	Ala	Leu		
225					230					235					240		
agc	act	tgt	gtc	tgt	cac	atc	tgt	gca	gtc	act	att	ttc	tat	gtg	cca	768	
Ser	Thr	Cys	Val	Cys	His	Ile	Cys	Ala	Val	Thr	Ile	Phe	Tyr	Val	Pro		
				245					250					255			
ctg	atc	agc	ctc	tct	ttg	gca	cac	cgc	ctc	ttc	cac	tcc	acc	cca	agg	816	
Leu	Ile	Ser	Leu	Ser	Leu	Ala	His	Arg	Leu	Phe	His	Ser	Thr	Pro	Arg		
			260					265					270				
gtg	ctc	tgt	agc	act	ttg	gcc	aat	att	tat	ctg	ctc	tta	cca	cct	gtg	864	
Val	Leu	Cys	Ser	Thr	Leu	Ala	Asn	Ile	Tyr	Leu	Leu	Leu	Pro	Pro	Val		
		275					280					285					
ctg	aac	cct	atc	att	tac	agc	ttg	aag	acc	aag	aca	atc	cgc	cag	gct	912	
Leu	Asn	Pro	Ile	Ile	Tyr	Ser	Leu	Lys	Thr	Lys	Thr	Ile	Arg	Gln	Ala		
		290				295					300						
atg	ttc	cag	ctg	ctc	caa	tcc	aag	ggg	tca	tgg	ggg	ttt	aat	gtg	agg	960	
Met	Phe	Gln	Leu	Leu	Gln	Ser	Lys	Gly	Ser	Trp	Gly	Phe	Asn	Val	Arg		
305					310					315					320		
ggg	ctt	agg	gga	aga	tgg	gat	tga									984	
Gly	Leu	Arg	Gly	Arg	Trp	Asp											
				325													

&lt;210&gt; 460

<211> 327  
 <212> PRT  
 <213> Homo Sapiens

<400> 460

Met Ala Ile Phe Asn Asn Thr Thr Ser Ser Ser Ser Asn Phe Leu Leu  
 1 5 10 15

Thr Ala Phe Pro Gly Leu Glu Cys Ala His Val Trp Ile Ser Ile Pro  
 20 25 30

Val Cys Cys Leu Tyr Thr Ile Ala Leu Leu Gly Asn Ser Met Ile Phe  
 35 40 45

Leu Val Ile Ile Thr Lys Arg Arg Leu His Lys Pro Met Tyr Tyr Phe  
 50 55 60

Leu Ser Met Leu Ala Ala Val Asp Leu Cys Leu Thr Ile Thr Thr Leu  
 65 70 75 80

Pro Thr Val Leu Gly Val Leu Trp Phe His Ala Arg Glu Ile Ser Phe  
 85 90 95

Lys Ala Cys Phe Ile Gln Met Phe Phe Val His Ala Phe Ser Leu Leu  
 100 105 110

Glu Ser Ser Val Leu Val Ala Met Ala Phe Asp Arg Phe Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Asn Tyr Ala Thr Ile Leu Thr Asp Arg Met Val Leu  
 130 135 140

Val Ile Gly Leu Val Ile Cys Ile Arg Pro Ala Val Phe Leu Leu Pro  
 145 150 155 160

Leu Leu Val Ala Ile Asn Thr Val Ser Phe His Gly Gly His Glu Leu  
 165 170 175

Ser His Pro Phe Cys Tyr His Pro Glu Val Ile Lys Tyr Thr Tyr Ser  
 180 185 190

Lys Pro Trp Ile Ser Ser Phe Trp Gly Leu Phe Leu Gln Leu Tyr Leu  
 195 200 205

Asn Gly Thr Asp Val Leu Phe Ile Leu Phe Ser Tyr Val Leu Ile Leu  
 210 215 220

Arg Thr Val Leu Gly Ile Val Ala Arg Lys Lys Gln Gln Lys Ala Leu  
225 230 235 240

Ser Thr Cys Val Cys His Ile Cys Ala Val Thr Ile Phe Tyr Val Pro  
245 250 255

Leu Ile Ser Leu Ser Leu Ala His Arg Leu Phe His Ser Thr Pro Arg  
260 265 270

Val Leu Cys Ser Thr Leu Ala Asn Ile Tyr Leu Leu Leu Pro Pro Val  
275 280 285

Leu Asn Pro Ile Ile Tyr Ser Leu Lys Thr Lys Thr Ile Arg Gln Ala  
290 295 300

Met Phe Gln Leu Leu Gln Ser Lys Gly Ser Trp Gly Phe Asn Val Arg  
305 310 315 320

Gly Leu Arg Gly Arg Trp Asp  
325

<210> 461  
<211> 975  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(972)  
<223>

<400> 461  
atg ctg ggt cca gct tat aac cac aca atg gaa acc cct gcc tcc ttc 48  
Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe  
1 5 10 15  
ctc ctt gtg ggt atc cca gga ctg caa tct tca cat ctt tgg ctg gct 96  
Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala  
20 25 30  
atc tca ctg agt gcc atg tac atc ata gcc ctg tta gga aac acc atc 144  
Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile  
35 40 45  
atc gtg act gca atc tgg atg gat tcc act cgg cat gag ccc atg tat 192  
Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr  
50 55 60  
tgc ttt ctg tgt gtt ctg gct gct gtg gac att gtt atg gcc tcc tcg 240  
Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser  
65 70 75 80

gtg gta ccc aag atg gtg agc atc ttc tgc tca gga gac agc tca atc	288
Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile	
85 90 95	
agc ttt agt gct tgt ttc act cag atg ttt ttt gtc cac tta gcc aca	336
Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr	
100 105 110	
gct gtg gag acg ggg ctg ctg ctg acc atg gct ttt gac cgc tat gta	384
Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val	
115 120 125	
gcc atc tgc aag cct cta cac tac aag aga att ctc acg cct caa gtg	432
Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val	
130 135 140	
atg ctg gga atg agt atg gcc atc acc atc aga gct atc ata gcc ata	480
Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile	
145 150 155 160	
act cca ctg agt tgg atg gtg agt cat cta cct ttc tgt ggc tcc aat	528
Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn	
165 170 175	
gtg gtt gtc cac tcc tac tgt gag cac ata gct ttg gcc agg tta gca	576
Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala	
180 185 190	
tgt gct gac ccc gtg ccc agc agt ctc tac agt ctg att ggt tcc tct	624
Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser	
195 200 205	
ctt atg gtg ggc tct gat gtg gcc ttc att gct gcc tcc tat atc tta	672
Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu	
210 215 220	
att ctc aag gca gta ttt ggt ctc tcc tca aag act gct cag ttg aaa	720
Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys	
225 230 235 240	
gca tta agc aca tgt ggc tcc cat gtg ggg gtt atg gct ttg tac tat	768
Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr	
245 250 255	
cta cct ggg atg gca tcc atc tat gcg gcc tgg ttg ggg cag gat gta	816
Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val	
260 265 270	
gtg ccc ttg cac acc caa gtc ctg cta gct gac ctg tac gtg atc atc	864
Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile	
275 280 285	
cca gcc acc tta aat ccc atc atc tat ggc atg agg acc aaa caa ctg	912
Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu	
290 295 300	
cgg gag aga ata tgg agt tat ctg atg cat gtc ctc ttt gac cat tcc	960
Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser	
305 310 315 320	
aac ctg ggt tca tga	975

Asn Leu Gly Ser

<210> 462  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

&lt;400&gt; 462

Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe  
 1 5 10 15

Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala  
 20 25 30

Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile  
 35 40 45

Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr  
 50 55 60

Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser  
 65 70 75 80

Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile  
 85 90 95

Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr  
 100 105 110

Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val  
 115 120 125

Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val  
 130 135 140

Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile  
 145 150 155 160

Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn  
 165 170 175

Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala  
 180 185 190

Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser  
 195 200 205

Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu  
 210 215 220

Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys  
 225 230 235 240

Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr  
 245 250 255

Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val  
 260 265 270

Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile  
 275 280 285

Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu  
 290 295 300

Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser  
 305 310 315 320

Asn Leu Gly Ser

<210> 463  
 <211> 963  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1) .. (960)  
 <223>

<400> 463  
 atg agt tcc tgc aac ttc aca cat gcc acc ttt gtg ctt att ggt atc 48  
 Met Ser Ser Cys Asn Phe Thr His Ala Thr Phe Val Leu Ile Gly Ile  
 1 5 10 15  
 cca gga tta gag aaa gcc cat ttc tgg gtt ggc ttc ccc ctc ctt tcc 96  
 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser  
 20 25 30  
 atg tat gta gtg gca atg ttt gga aac tgc atc gtg gtc ttc atc gta 144  
 Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val  
 35 40 45  
 agg acg gaa cgc agc ctg cac gct ccg atg tac ctc ttt ctc tgc atg 192  
 Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met  
 50 55 60

ctt gca gcc att gac ctg gcc tta tcc aca tcc acc atg cct aag atc	240
Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile	
65 70 75 80	
ctt gcc ctt ttc tgg ttt gat tcc cga gag att agc ttt gag gcc tgt	288
Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys	
85 90 95	
ctt acc cag atg ttc ttt att cat gcc ctc tca gcc att gaa tcc acc	336
Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr	
100 105 110	
atc ctg ctg gcc atg gcc ttt gac cgt tat gtg gcc atc tgc cac cca	384
Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro	
115 120 125	
ctg cgc cat gct gca gtg ctc aac aat aca gta aca gcc cag att ggc	432
Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly	
130 135 140	
atc gtg gct gtg gtc cgc gga tcc ctc ttt ttt ttc cca ctg cct ctg	480
Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu	
145 150 155 160	
ctg atc aag cgg ctg gcc ttc tgc cac tcc aat gtc ctc tcg cac tcc	528
Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser	
165 170 175	
tat tgt gtc cac cag gat gta atg aag ttg gcc tat gca gac act ttg	576
Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu	
180 185 190	
ccc aat gtg gta tat ggt ctt act gcc att ctg ctg gtc atg ggc gtg	624
Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val	
195 200 205	
gac gta atg ttc atc tcc ttg tcc tat ttt ctg ata ata cga acg gtt	672
Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val	
210 215 220	
ctg caa ctg cct tcc aag tca gag cgg gcc aag gcc ttt gga acc tgt	720
Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys	
225 230 235 240	
gtg tca cac att ggt gtg gta ctc gcc ttc tat gtg cca ctt att ggc	768
Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly	
245 250 255	
ctc tca gtg gta cac cgc ttt gga aac agc ctt cat ccc att gtg cgt	816
Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg	
260 265 270	
gtt gtc atg ggt gac atc tac ctg ctg ctg cct cct gtc atc aat ccc	864
Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro	
275 280 285	
atc atc tat ggt gcc aaa acc aaa cag atc aga aca cgg gtg ctg gct	912
Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala	
290 295 300	



atg ttc aag atc agc tgt gac aag gac ttg cag gct gtg gga ggc aag 960  
 Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys  
 305 310 315 320

tga 963

<210> 464

<211> 320

<212> PRT

<213> Homo Sapiens

<400> 464

Met Ser Ser Cys Asn Phe Thr His Ala Thr Phe Val Leu Ile Gly Ile  
 1 5 10 15

Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser  
 20 25 30

Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val  
 35 40 45

Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met  
 50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile  
 65 70 75 80

Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys  
 85 90 95

Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr  
 100 105 110

Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro  
 115 120 125

Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly  
 130 135 140

Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu  
 145 150 155 160

Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser  
 165 170 175

Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu  
 180 185 190

Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val  
195 200 205

Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val  
210 215 220

Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys  
225 230 235 240

Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly  
245 250 255

Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg  
260 265 270

Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro  
275 280 285

Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala  
290 295 300

Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys  
305 310 315 320

<210> 465  
<211> 957  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (954)  
<223>

<400> 465  
atg atg gtg gat ccc aat ggc aat gaa tcc agt gct aca tac ttc atc 48  
Met Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile  
1 5 10 15  
cta ata ggc ctc cct ggt tta gaa gag gct cag ttc tgg ttg gcc ttc 96  
Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe  
20 25 30  
cca ttg tgc tcc ctc tac ctt att gct gtg cta ggt aac ttg aca atc 144  
Pro Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu Thr Ile  
35 40 45  
atc tac att gtg cgg act gag cac agc ctg cat gag ccc atg tat ata 192  
Ile Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile  
50 55 60

ttt ctt tgc atg ctt tca ggc att gac atc ctc atc tcc acc tca tcc	240
Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr Ser Ser	
65 70 75 80	
atg ccc aaa atg ctg gcc atc ttc tgg ttc aat tcc act acc atc cag	288
Met Pro Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln	
85 90 95	
ttt gat gct tgt ctg cta cag atg ttt gcc atc cac tcc tta tct ggc	336
Phe Asp Ala Cys Leu Leu Gln Met Phe Ala Ile His Ser Leu Ser Gly	
100 105 110	
atg gaa tcc aca gtg ctg ctg gcc atg gct ttt gac cgc tat gtg gcc	384
Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala	
115 120 125	
atc tgt cac cca ctg cgc cat gcc aca gta ctt acg ttg cct cgt gtc	432
Ile Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val	
130 135 140	
acc aaa att ggt gtg gct gct gtg gtg cgg ggg gct gca ctg atg gca	480
Thr Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala	
145 150 155 160	
ccc ctt cct gtc ttc atc aag cag ctg ccc ttc tgc cgc tcc aat atc	528
Pro Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile	
165 170 175	
ctt tcc cat tcc tac tgc cta cac caa gat gtc atg aag ctg gcc tgt	576
Leu Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys	
180 185 190	
gat gat atc cgg gtc aat gtc gtc tat ggc ctt atc gtc atc atc tcc	624
Asp Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser	
195 200 205	
gcc att ggc ctg gac tca ctt ctc atc tcc ttc tca tat ctg ctt att	672
Ala Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile	
210 215 220	
ctt aag act gtg ttg ggc ttg aca cgt gaa gcc cag gcc aag gca ttt	720
Leu Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe	
225 230 235 240	
ggc act tgc gtc tct cat gtg tgt gct gtg ttc ata ttc tat gta cct	768
Gly Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro	
245 250 255	
ttc att gga ttg tcc atg gtg cat cgc ttt agc aag cgg cgt gac tct	816
Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser	
260 265 270	
ccg ctg ccc gtc atc ttg gcc aat atc tat ctg ctg gtt cct cct gtg	864
Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val	
275 280 285	
ctc aac cca att gtc tat gga gtg aag aca aag gag att cga cag cgc	912
Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg	
290 295 300	
atc ctt cga ctt ttc cat gtg gcc aca cac gct tca gag ccc tag	957

Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro  
 305 310 315

<210> 466  
 <211> 318  
 <212> PRT  
 <213> Homo Sapiens

<400> 466

Met Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile  
 1 5 10 15

Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe  
 20 25 30

Pro Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu Thr Ile  
 35 40 45

Ile Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile  
 50 55 60

Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr Ser Ser  
 65 70 75 80

Met Pro Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln  
 85 90 95

Phe Asp Ala Cys Leu Leu Gln Met Phe Ala Ile His Ser Leu Ser Gly  
 100 105 110

Met Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala  
 115 120 125

Ile Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val  
 130 135 140

Thr Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala  
 145 150 155 160

Pro Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile  
 165 170 175

Leu Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys  
 180 185 190

Asp Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser  
 195 200 205

Ala Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile  
210 215 220

Leu Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe  
225 230 235 240

Gly Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro  
245 250 255

Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser  
260 265 270

Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val  
275 280 285

Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg  
290 295 300

Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro  
305 310 315

<210> 467  
<211> 975  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(972)  
<223>

<400> 467  
atg ctg ggt cca gct tat aac cac aca atg gaa acc cct gcc tcc ttc 48  
Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe  
1 5 10 15  
ctc ctt gtg ggt atc cca gga ctg caa tct tca cat ctt tgg ctg gct 96  
Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala  
20 25 30  
atc tca ctg agt gcc atg tac atc ata gcc ctg tta gga aac acc atc 144  
Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile  
35 40 45  
atc gtg act gca atc tgg atg gat tcc act cgg cat gag ccc atg tat 192  
Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr  
50 55 60  
tgc ttt ctg tgt gtt ctg gct gct gtg gac att gtt atg gcc tcc tcg 240  
Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser  
65 70 75 80

gtg gta ccc aag atg gtg agc atc ttc tgc tca gga gac agc tca atc	288
Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile	
85 90 95	
agc ttt agt gct tgt ttc act cag atg ttt ttt gtc cac tta gcc aca	336
Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr	
100 105 110	
gct gtg gag acg ggg ctg ctg ctg acc atg gct ttt gac cgc tat gta	384
Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val	
115 120 125	
gcc atc tgc aag cct cta cac tac aag aga att ctc acg cct caa gtg	432
Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val	
130 135 140	
atg ctg gga atg agt atg gcc atc acc atc aga gct atc ata gcc ata	480
Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile	
145 150 155 160	
act cca ctg agt tgg atg gtg agt cat cta cct ttc tgt ggc tcc aat	528
Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn	
165 170 175	
gtg gtt gtc cac tcc tac tgt gag cac ata gct ttg gcc agg tta gca	576
Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala	
180 185 190	
tgt gct gac ccc gtg ccc agc agt ctc tac agt ctg att ggt tcc tct	624
Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser	
195 200 205	
ctt atg gtg ggc tct gat gtg gcc ttc att gct gcc tcc tat atc tta	672
Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu	
210 215 220	
att ctc aag gca gta ttt ggt ctc tcc tca aag act gct cag ttg aaa	720
Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys	
225 230 235 240	
gca tta agc aca tgt ggc tcc cat gtg ggg gtt atg gct ttg tac tat	768
Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr	
245 250 255	
cta cct ggg atg gca tcc atc tat gcg gcc tgg ttg ggg cag gat gta	816
Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val	
260 265 270	
gtg ccc ttg cac acc caa gtc ctg cta gct gac ctg tac gtg atc atc	864
Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile	
275 280 285	
cca gcc acc tta aat ccc atc atc tat ggc atg agg acc aaa caa ctg	912
Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu	
290 295 300	
cgg gag aga ata tgg agt tat ctg atg cat gtc ctc ttt gac cat tcc	960
Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser	
305 310 315 320	

aac ctg ggt tca tga  
Asn Leu Gly Ser

975

<210> 468  
<211> 324  
<212> PRT  
<213> Homo Sapiens

<400> 468

Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe  
1 5 10 15

Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala  
20 25 30

Ile Ser Leu Ser Ala Met Tyr Ile Ile Ala Leu Leu Gly Asn Thr Ile  
35 40 45

Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr  
50 55 60

Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser  
65 70 75 80

Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile  
85 90 95

Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr  
100 105 110

Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val  
115 120 125

Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val  
130 135 140

Met Leu Gly Met Ser Met Ala Ile Thr Ile Arg Ala Ile Ile Ala Ile  
145 150 155 160

Thr Pro Leu Ser Trp Met Val Ser His Leu Pro Phe Cys Gly Ser Asn  
165 170 175

Val Val Val His Ser Tyr Cys Glu His Ile Ala Leu Ala Arg Leu Ala  
180 185 190

Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser

195                      200                      205  
 Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu  
     210                      215                      220  
 Ile Leu Lys Ala Val Phe Gly Leu Ser Ser Lys Thr Ala Gln Leu Lys  
     225                      230                      235                      240  
 Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr  
                     245                      250                      255  
 Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Val  
                     260                      265                      270  
 Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile  
                     275                      280                      285  
 Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu  
                     290                      295                      300  
 Arg Glu Arg Ile Trp Ser Tyr Leu Met His Val Leu Phe Asp His Ser  
     305                      310                      315                      320

Asn Leu Gly Ser

<210> 469  
 <211> 975  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(972)  
 <223>

<400> 469  
 atg ctg ggt cca gct tac aac cac aca atg gaa acc cct gcc tcc ttc                      48  
 Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe  
     1                      5                      10                      15  
 ctc ctt gtg ggt atc cca gga ctg caa tct tca cat ctt tgg ctg gct                      96  
 Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala  
                     20                      25                      30  
 atc tca ctg agt gcc atg tac atc aca gcc ctg tta gga aac acc ctc                      144  
 Ile Ser Leu Ser Ala Met Tyr Ile Thr Ala Leu Leu Gly Asn Thr Leu  
                     35                      40                      45  
 atc gtg act gca atc tgg atg gat tcc act cgg cat gag ccc atg tat                      192  
 Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr



50	55	60	
tgc ttt ctg tgt gtt ctg gct gct gtg gac att gtt atg gcc tcc tcc Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser 65 70 75 80			240
gtg gta ccc aag atg gtg agc atc ttc tgc tcg gga gac agc tcc atc Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile 85 90 95			288
agc ttt agt gct tgt ttc act cag atg ttt ttt gtc cac tta gcc aca Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr 100 105 110			336
gct gtg gag acg ggg ctg ctg ctg acc atg gct ttt gac cgc tat gta Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val 115 120 125			384
gcc atc tgc aag cct cta cac tac aag aga att ctc acg cct caa gtg Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val 130 135 140			432
atg ctg gga atg agt atg gcc gtc acc atc aga gct gtc aca ttc atg Met Leu Gly Met Ser Met Ala Val Thr Ile Arg Ala Val Thr Phe Met 145 150 155 160			480
act cca ctg agt tgg atg atg aat cat cta cct ttc tgt ggc tcc aat Thr Pro Leu Ser Trp Met Met Asn His Leu Pro Phe Cys Gly Ser Asn 165 170 175			528
gtg gtt gtc cac tcc tac tgt aag cac ata gct ttg gcc agg tta gca Val Val Val His Ser Tyr Cys Lys His Ile Ala Leu Ala Arg Leu Ala 180 185 190			576
tgt gct gac ccc gtg ccc agc agt ctc tac agt ctg att ggt tcc tct Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser 195 200 205			624
ctt atg gtg ggc tct gat gtg gcc ttc att gct gcc tcc tat atc tta Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu 210 215 220			672
att ctc agg gca gta ttt gat ctc tcc tca aag act gct cag ttg aaa Ile Leu Arg Ala Val Phe Asp Leu Ser Ser Lys Thr Ala Gln Leu Lys 225 230 235 240			720
gca tta agc aca tgt ggc tcc cat gtg ggg gtt atg gct ttg tac tat Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr 245 250 255			768
cta cct ggg atg gca tcc atc tat gcg gcc tgg ttg ggg cag gat ata Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Ile 260 265 270			816
gtg ccc ttg cac acc caa gtg ctg cta gct gac ctg tac gtg atc atc Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile 275 280 285			864
cca gcc act tta aat ccc atc atc tat ggc atg agg acc aaa caa ttg Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu 290 295 300			912

ctg gag gga ata tgg agt tat ctg atg cac ttc ctc ttt gac cac tcc 960  
 Leu Glu Gly Ile Trp Ser Tyr Leu Met His Phe Leu Phe Asp His Ser  
 305 310 315 320

aac ctg ggt tca tga 975  
 Asn Leu Gly Ser

<210> 470  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 470

Met Leu Gly Pro Ala Tyr Asn His Thr Met Glu Thr Pro Ala Ser Phe  
 1 5 10 15

Leu Leu Val Gly Ile Pro Gly Leu Gln Ser Ser His Leu Trp Leu Ala  
 20 25 30

Ile Ser Leu Ser Ala Met Tyr Ile Thr Ala Leu Leu Gly Asn Thr Leu  
 35 40 45

Ile Val Thr Ala Ile Trp Met Asp Ser Thr Arg His Glu Pro Met Tyr  
 50 55 60

Cys Phe Leu Cys Val Leu Ala Ala Val Asp Ile Val Met Ala Ser Ser  
 65 70 75 80

Val Val Pro Lys Met Val Ser Ile Phe Cys Ser Gly Asp Ser Ser Ile  
 85 90 95

Ser Phe Ser Ala Cys Phe Thr Gln Met Phe Phe Val His Leu Ala Thr  
 100 105 110

Ala Val Glu Thr Gly Leu Leu Leu Thr Met Ala Phe Asp Arg Tyr Val  
 115 120 125

Ala Ile Cys Lys Pro Leu His Tyr Lys Arg Ile Leu Thr Pro Gln Val  
 130 135 140

Met Leu Gly Met Ser Met Ala Val Thr Ile Arg Ala Val Thr Phe Met  
 145 150 155 160

Thr Pro Leu Ser Trp Met Met Asn His Leu Pro Phe Cys Gly Ser Asn  
 165 170 175

Val Val Val His Ser Tyr Cys Lys His Ile Ala Leu Ala Arg Leu Ala  
180 185 190

Cys Ala Asp Pro Val Pro Ser Ser Leu Tyr Ser Leu Ile Gly Ser Ser  
195 200 205

Leu Met Val Gly Ser Asp Val Ala Phe Ile Ala Ala Ser Tyr Ile Leu  
210 215 220

Ile Leu Arg Ala Val Phe Asp Leu Ser Ser Lys Thr Ala Gln Leu Lys  
225 230 235 240

Ala Leu Ser Thr Cys Gly Ser His Val Gly Val Met Ala Leu Tyr Tyr  
245 250 255

Leu Pro Gly Met Ala Ser Ile Tyr Ala Ala Trp Leu Gly Gln Asp Ile  
260 265 270

Val Pro Leu His Thr Gln Val Leu Leu Ala Asp Leu Tyr Val Ile Ile  
275 280 285

Pro Ala Thr Leu Asn Pro Ile Ile Tyr Gly Met Arg Thr Lys Gln Leu  
290 295 300

Leu Glu Gly Ile Trp Ser Tyr Leu Met His Phe Leu Phe Asp His Ser  
305 310 315 320

Asn Leu Gly Ser

<210> 471  
<211> 975  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(972)  
<223>

<400> 471  
atg cag aag ccc cag ctc ttg gtc cct atc ata gcc act tca aat gga 48  
Met Gln Lys Pro Gln Leu Leu Val Pro Ile Ile Ala Thr Ser Asn Gly  
1 5 10 15  
aat ctg gtc cac gca gca tac ttc ctt ttg gtg ggt atc cct ggc ctg 96  
Asn Leu Val His Ala Ala Tyr Phe Leu Leu Val Gly Ile Pro Gly Leu  
20 25 30  
ggg cct acc ata cac ttt tgg ctg gct ttc cca ctg tgt ttt atg tat 144

Gly	Pro	Thr	Ile	His	Phe	Trp	Leu	Ala	Phe	Pro	Leu	Cys	Phe	Met	Tyr	
	35						40					45				
gcc	ttg	gcc	acc	ctg	ggt	aac	ctg	acc	att	gtc	ctc	atc	att	cgt	gtg	192
Ala	Leu	Ala	Thr	Leu	Gly	Asn	Leu	Thr	Ile	Val	Leu	Ile	Ile	Arg	Val	
	50					55					60					
gag	agg	cga	ctg	cat	gag	ccc	atg	tac	ctc	ttc	ctg	gcc	atg	ctt	tcc	240
Glu	Arg	Arg	Leu	His	Glu	Pro	Met	Tyr	Leu	Phe	Leu	Ala	Met	Leu	Ser	
65				70					75					80		
act	att	gac	cta	gtc	ctc	tcc	tct	atc	acc	atg	ccc	aag	atg	gcc	agt	288
Thr	Ile	Asp	Leu	Val	Leu	Ser	Ser	Ile	Thr	Met	Pro	Lys	Met	Gcc	Ser	
			85					90					95			
ctt	ttc	ctg	atg	ggc	atc	cag	gag	atc	gag	ttc	aac	att	tgc	ctg	gcc	336
Leu	Phe	Leu	Met	Gly	Ile	Gln	Glu	Ile	Glu	Phe	Asn	Ile	Cys	Leu	Ala	
			100				105						110			
cag	atg	ttc	ctt	atc	cat	gct	ctg	tca	gcc	gtg	gag	tca	gct	gtc	ctg	384
Gln	Met	Phe	Leu	Ile	His	Ala	Leu	Ser	Ala	Val	Glu	Ser	Ala	Val	Leu	
		115				120						125				
ctg	gcc	atg	gct	ttt	gac	cgc	ttt	gtg	gcc	att	tgc	cac	cca	ttg	cgc	432
Leu	Ala	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile	Cys	His	Pro	Leu	Arg	
	130					135					140					
cat	gct	tct	gtg	ctg	aca	ggg	tgt	act	gtg	gcc	aag	att	gga	cta	tct	480
His	Ala	Ser	Val	Leu	Thr	Gly	Cys	Thr	Val	Ala	Lys	Ile	Gly	Leu	Ser	
145				150					155					160		
gcc	ctg	acc	agg	ggg	ttt	gta	ttc	ttc	ttc	cca	ctg	ccc	ttc	atc	ctc	528
Ala	Leu	Thr	Arg	Gly	Phe	Val	Phe	Phe	Phe	Pro	Leu	Pro	Phe	Ile	Leu	
				165					170					175		
aag	tgg	ttg	tcc	tac	tgc	caa	aca	cat	act	gtc	aca	cac	tcc	ttc	tgt	576
Lys	Trp	Leu	Ser	Tyr	Cys	Gln	Thr	His	Thr	Val	Thr	His	Ser	Phe	Cys	
			180				185						190			
ctg	cac	caa	gat	att	atg	aag	ctg	tcc	tgt	act	gac	acc	agg	gtc	aat	624
Leu	His	Gln	Asp	Ile	Met	Lys	Leu	Ser	Cys	Thr	Asp	Thr	Arg	Val	Asn	
		195				200						205				
gtg	gtt	tat	gga	ctc	ttc	atc	atc	ctc	tca	gtc	atg	ggg	gtg	gac	tct	672
Val	Val	Tyr	Gly	Leu	Phe	Ile	Ile	Leu	Ser	Val	Met	Gly	Val	Asp	Ser	
	210					215					220					
ctc	ttc	att	ggc	ttc	tca	tat	atc	ctc	atc	ctg	tgg	gct	gtt	ttg	gag	720
Leu	Phe	Ile	Gly	Phe	Ser	Tyr	Ile	Leu	Ile	Leu	Trp	Ala	Val	Leu	Glu	
225				230					235					240		
ctg	tcc	tct	cgg	agg	gca	gca	ctc	aag	gct	ttc	aac	acc	tgc	atc	tcc	768
Leu	Ser	Ser	Arg	Arg	Ala	Ala	Leu	Lys	Ala	Phe	Asn	Thr	Cys	Ile	Ser	
			245					250					255			
cac	ctc	tgt	gct	gtt	ctg	gtc	ttc	tat	gta	ccc	ctc	att	ggg	ctc	tcg	816
His	Leu	Cys	Ala	Val	Leu	Val	Phe	Tyr	Val	Pro	Leu	Ile	Gly	Leu	Ser	
			260				265					270				
gtg	gtg	cat	agg	ctg	ggg	ggg	ccc	acc	tcc	ctc	ctc	cat	gtg	gtt	atg	864
Val	Val	His	Arg	Leu	Gly	Gly	Pro	Thr	Ser	Leu	Leu	His	Val	Val	Met	

275	280	285	
gct aat acc tac ttg ctg cta cca cct gta gtc aac ccc ctt gtc tat			912
Ala Asn Thr Tyr Leu Leu Leu Pro Pro Val Val Asn Pro Leu Val Tyr			
290	295	300	
gga gcc aag acc aaa gag atc tgt tca agg gtc ctc tgt atg ttc tca			960
Gly Ala Lys Thr Lys Glu Ile Cys Ser Arg Val Leu Cys Met Phe Ser			
305	310	315	320
caa ggt ggc aag tga			975
Gln Gly Gly Lys			

<210> 472  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 472

Met Gln Lys Pro Gln Leu Leu Val Pro Ile Ile Ala Thr Ser Asn Gly
1 5 10 15

Asn Leu Val His Ala Ala Tyr Phe Leu Leu Val Gly Ile Pro Gly Leu
20 25 30

Gly Pro Thr Ile His Phe Trp Leu Ala Phe Pro Leu Cys Phe Met Tyr
35 40 45

Ala Leu Ala Thr Leu Gly Asn Leu Thr Ile Val Leu Ile Ile Arg Val
50 55 60

Glu Arg Arg Leu His Glu Pro Met Tyr Leu Phe Leu Ala Met Leu Ser
65 70 75 80

Thr Ile Asp Leu Val Leu Ser Ser Ile Thr Met Pro Lys Met Ala Ser
85 90 95

Leu Phe Leu Met Gly Ile Gln Glu Ile Glu Phe Asn Ile Cys Leu Ala
100 105 110

Gln Met Phe Leu Ile His Ala Leu Ser Ala Val Glu Ser Ala Val Leu
115 120 125

Leu Ala Met Ala Phe Asp Arg Phe Val Ala Ile Cys His Pro Leu Arg
130 135 140

His Ala Ser Val Leu Thr Gly Cys Thr Val Ala Lys Ile Gly Leu Ser
145 150 155 160

Ala Leu Thr Arg Gly Phe Val Phe Phe Phe Pro Leu Pro Phe Ile Leu  
165 170 175

Lys Trp Leu Ser Tyr Cys Gln Thr His Thr Val Thr His Ser Phe Cys  
180 185 190

Leu His Gln Asp Ile Met Lys Leu Ser Cys Thr Asp Thr Arg Val Asn  
195 200 205

Val Val Tyr Gly Leu Phe Ile Ile Leu Ser Val Met Gly Val Asp Ser  
210 215 220

Leu Phe Ile Gly Phe Ser Tyr Ile Leu Ile Leu Trp Ala Val Leu Glu  
225 230 235 240

Leu Ser Ser Arg Arg Ala Ala Leu Lys Ala Phe Asn Thr Cys Ile Ser  
245 250 255

His Leu Cys Ala Val Leu Val Phe Tyr Val Pro Leu Ile Gly Leu Ser  
260 265 270

Val Val His Arg Leu Gly Gly Pro Thr Ser Leu Leu His Val Val Met  
275 280 285

Ala Asn Thr Tyr Leu Leu Leu Pro Pro Val Val Asn Pro Leu Val Tyr  
290 295 300

Gly Ala Lys Thr Lys Glu Ile Cys Ser Arg Val Leu Cys Met Phe Ser  
305 310 315 320

Gln Gly Gly Lys

<210> 473  
<211> 943  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (942)  
<223>

<400> 473  
atg ctc act ttt cat aat gtc tgc tca gta ccc agc tcc ttc tgg ctc  
Met Leu Thr Phe His Asn Val Cys Ser Val Pro Ser Ser Phe Trp Leu  
1 5 10 15

48

act ggc atc cca ggg ctg gag tcc cta cac gtc tgg ctc tcc atc ccc	96
Thr Gly Ile Pro Gly Leu Glu Ser Leu His Val Trp Leu Ser Ile Pro	
20 25 30	
ttt ggc tcc atg tac ctg gtg gct gtg gtg ggg aat gtg acc atc ctg	144
Phe Gly Ser Met Tyr Leu Val Ala Val Val Gly Asn Val Thr Ile Leu	
35 40 45	
gct gtg gta aag ata gaa cgc agc ctg cac cag ccc atg tac ttt ttc	192
Ala Val Val Lys Ile Glu Arg Ser Leu His Gln Pro Met Tyr Phe Phe	
50 55 60	
ttg tgc atg ttg gct gcc att gac ctg gtt ctg tct act tcc act ata	240
Leu Cys Met Leu Ala Ala Ile Asp Leu Val Leu Ser Thr Ser Thr Ile	
65 70 75 80	
ccc aaa ctt ctg gga atc ttc tgg ttc ggt gct tgt gac att ggc ctg	288
Pro Lys Leu Leu Gly Ile Phe Trp Phe Gly Ala Cys Asp Ile Gly Leu	
85 90 95	
gac gcc tgc ttg ggc caa atg ttc ctt atc cac tgc ttt gcc act gtt	336
Asp Ala Cys Leu Gly Gln Met Phe Leu Ile His Cys Phe Ala Thr Val	
100 105 110	
gag tca ggc atc ttc ctt gcc atg gct ttt gat cgc tac gtg gcc atc	384
Glu Ser Gly Ile Phe Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc aac cca cta cgt cat agc atg gtg ctc act tat aca gtg gtg ggt	432
Cys Asn Pro Leu Arg His Ser Met Val Leu Thr Tyr Thr Val Val Gly	
130 135 140	
cgt ttg ggg ctt gtt tct ctc ctc cgg ggt gtt ctc tac att gga cct	480
Arg Leu Gly Leu Val Ser Leu Leu Arg Gly Val Leu Tyr Ile Gly Pro	
145 150 155 160	
ctg cct ctg atg atc cgc ctg cgg ctg ccc ctt tat aaa acc cat gtt	528
Leu Pro Leu Met Ile Arg Leu Arg Leu Pro Leu Tyr Lys Thr His Val	
165 170 175	
atc tcc cac tcc tac tgt gag cac atg gct gta gtt gcc ttg aca tgt	576
Ile Ser His Ser Tyr Cys Glu His Met Ala Val Val Ala Leu Thr Cys	
180 185 190	
ggc gac agc agg gtc aat aat gtc tat ggg ctg agc atc ggc ttt ctg	624
Gly Asp Ser Arg Val Asn Asn Val Tyr Gly Leu Ser Ile Gly Phe Leu	
195 200 205	
gtg ttg atc ctg gac tca gtg gct att gct gca tcc tat gtg atg att	672
Val Leu Ile Leu Asp Ser Val Ala Ile Ala Ala Ser Tyr Val Met Ile	
210 215 220	
ttc agg gcc gtg atg ggg tta gcc act cct gag gct agg ctt aaa acc	720
Phe Arg Ala Val Met Gly Leu Ala Thr Pro Glu Ala Arg Leu Lys Thr	
225 230 235 240	
ctg ggg aca tgc gct tct cac ctc tgt gcc atc ctg atc ttt tat gtt	768
Leu Gly Thr Cys Ala Ser His Leu Cys Ala Ile Leu Ile Phe Tyr Val	
245 250 255	
ccc att gct gtt tct tcc ctg att cac cga ttt ggt cag tgt gtg cct	816

Pro Ile Ala Val Ser Ser Leu Ile His Arg Phe Gly Gln Cys Val Pro  
 260 265 270

cct cca gtc cac act ctg ctg gcc aac ttc tat ctc ctc att cct cca 864  
 Pro Pro Val His Thr Leu Leu Ala Asn Phe Tyr Leu Leu Ile Pro Pro  
 275 280 285

atc ctc aat ccc att gtc tat gct gtt cgc acc aag cag atc cga gag 912  
 Ile Leu Asn Pro Ile Val Tyr Ala Val Arg Thr Lys Gln Ile Arg Glu  
 290 295 300

agc ctt ctc caa ata cca agg ata gaa atg a 943  
 Ser Leu Leu Gln Ile Pro Arg Ile Glu Met  
 305 310

<210> 474  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 474

Met Leu Thr Phe His Asn Val Cys Ser Val Pro Ser Ser Phe Trp Leu  
 1 5 10 15

Thr Gly Ile Pro Gly Leu Glu Ser Leu His Val Trp Leu Ser Ile Pro  
 20 25 30

Phe Gly Ser Met Tyr Leu Val Ala Val Val Gly Asn Val Thr Ile Leu  
 35 40 45

Ala Val Val Lys Ile Glu Arg Ser Leu His Gln Pro Met Tyr Phe Phe  
 50 55 60

Leu Cys Met Leu Ala Ala Ile Asp Leu Val Leu Ser Thr Ser Thr Ile  
 65 70 75 80

Pro Lys Leu Leu Gly Ile Phe Trp Phe Gly Ala Cys Asp Ile Gly Leu  
 85 90 95

Asp Ala Cys Leu Gly Gln Met Phe Leu Ile His Cys Phe Ala Thr Val  
 100 105 110

Glu Ser Gly Ile Phe Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile  
 115 120 125

Cys Asn Pro Leu Arg His Ser Met Val Leu Thr Tyr Thr Val Val Gly  
 130 135 140

Arg Leu Gly Leu Val Ser Leu Leu Arg Gly Val Leu Tyr Ile Gly Pro  
 145 150 155 160



Leu Pro Leu Met Ile Arg Leu Arg Leu Pro Leu Tyr Lys Thr His Val  
165 170 175

Ile Ser His Ser Tyr Cys Glu His Met Ala Val Val Ala Leu Thr Cys  
180 185 190

Gly Asp Ser Arg Val Asn Asn Val Tyr Gly Leu Ser Ile Gly Phe Leu  
195 200 205

Val Leu Ile Leu Asp Ser Val Ala Ile Ala Ala Ser Tyr Val Met Ile  
210 215 220

Phe Arg Ala Val Met Gly Leu Ala Thr Pro Glu Ala Arg Leu Lys Thr  
225 230 235 240

Leu Gly Thr Cys Ala Ser His Leu Cys Ala Ile Leu Ile Phe Tyr Val  
245 250 255

Pro Ile Ala Val Ser Ser Leu Ile His Arg Phe Gly Gln Cys Val Pro  
260 265 270

Pro Pro Val His Thr Leu Leu Ala Asn Phe Tyr Leu Leu Ile Pro Pro  
275 280 285

Ile Leu Asn Pro Ile Val Tyr Ala Val Arg Thr Lys Gln Ile Arg Glu  
290 295 300

Ser Leu Leu Gln Ile Pro Arg Ile Glu Met  
305 310

<210> 475

<211> 942

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (939)

<223>

<400> 475

atg agc cct gag aac cag agc agc gtg tcc gag ttc ctc ctt ctg ggc 48  
Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly  
1 5 10 15

ctc ccc atc cgg cca gag cag cag gct gtg ttc ttc acc ctg ttc ctg 96  
Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Thr Leu Phe Leu  
20 25 30

ggc atg tac ctg acc acg gtg ctg ggg aac ctg ctc atc atg ctg ctc	144
Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu	
35 40 45	
atc cag ctg gac tct cac ctt cac acc ccc atg tac ttc ttc ctc agc	192
Ile Gln Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
cac ttg gct ctc act gac atc tcc ttt tca tct gtc act gtc cct aag	240
His Leu Ala Leu Thr Asp Ile Ser Phe Ser Ser Val Thr Val Pro Lys	
65 70 75 80	
atg ctg atg gac atg cgg act aag tac aaa tcg atc ctc tat gag gaa	288
Met Leu Met Asp Met Arg Thr Lys Tyr Lys Ser Ile Leu Tyr Glu Glu	
85 90 95	
tgc att tct cag atg tat ttt ttt ata ttt ttt act gac ctg gac agc	336
Cys Ile Ser Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Ser	
100 105 110	
ttc ctt att aca tca atg gca tat gac cga tat gtt gcc ata tgt cac	384
Phe Leu Ile Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His	
115 120 125	
cct ctc cac tac act gtc atc atg agg gaa gag ctc tgt gtc ttc tta	432
Pro Leu His Tyr Thr Val Ile Met Arg Glu Glu Leu Cys Val Phe Leu	
130 135 140	
gtg gct gta tct tgg att ctg tct tgt gcc agc tcc ctc tct cac acc	480
Val Ala Val Ser Trp Ile Leu Ser Cys Ala Ser Ser Leu Ser His Thr	
145 150 155 160	
ctt ctc ctg acc cgg ctg tct ttc tgt gct gcg aac acc atc ccc cat	528
Leu Leu Leu Thr Arg Leu Ser Phe Cys Ala Ala Asn Thr Ile Pro His	
165 170 175	
gtc ttc tgt gac ctt gct gcc ctg ctc aag ctg tcc tgc tca gat atc	576
Val Phe Cys Asp Leu Ala Ala Leu Leu Lys Leu Ser Cys Ser Asp Ile	
180 185 190	
ttc ctc aat gag ctg gtc atg ttc aca gta ggg gtg gtg gtc att acc	624
Phe Leu Asn Glu Leu Val Met Phe Thr Val Gly Val Val Ile Thr	
195 200 205	
ctg cca ttc atg tgt atc ctg gta tca tat ggc tac att ggg gcc acc	672
Leu Pro Phe Met Cys Ile Leu Val Ser Tyr Gly Tyr Ile Gly Ala Thr	
210 215 220	
atc ctg agg gtc cct tca acc aaa ggg atc cac aaa gca ttg tcc aca	720
Ile Leu Arg Val Pro Ser Thr Lys Gly Ile His Lys Ala Leu Ser Thr	
225 230 235 240	
tgt ggc tcc cat ctc tct gtg gtg tct ctc tat tat ggg tca ata ttt	768
Cys Gly Ser His Leu Ser Val Val Ser Leu Tyr Tyr Gly Ser Ile Phe	
245 250 255	
ggc cag tac ctt ttc ccg act gta agc agt tct att gac aag gat gtc	816
Gly Gln Tyr Leu Phe Pro Thr Val Ser Ser Ser Ile Asp Lys Asp Val	
260 265 270	

att gtg gct ctc atg tac acg gtg gtc aca ccc atg ttg aac ccc ttt 864  
 Ile Val Ala Leu Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe  
 275 280 285

atc tac agc ctt agg aac agg gac atg aaa gag gcc ctt ggg aaa ctc 912  
 Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Glu Ala Leu Gly Lys Leu  
 290 295 300

ttc agt aga gca aca ttt ttc tct tgg tga 942  
 Phe Ser Arg Ala Thr Phe Phe Ser Trp  
 305 310

<210> 476

<211> 313

<212> PRT

<213> Homo Sapiens

<400> 476

Met Ser Pro Glu Asn Gln Ser Ser Val Ser Glu Phe Leu Leu Leu Gly  
 1 5 10 15

Leu Pro Ile Arg Pro Glu Gln Gln Ala Val Phe Phe Thr Leu Phe Leu  
 20 25 30

Gly Met Tyr Leu Thr Thr Val Leu Gly Asn Leu Leu Ile Met Leu Leu  
 35 40 45

Ile Gln Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
 50 55 60

His Leu Ala Leu Thr Asp Ile Ser Phe Ser Ser Val Thr Val Pro Lys  
 65 70 75 80

Met Leu Met Asp Met Arg Thr Lys Tyr Lys Ser Ile Leu Tyr Glu Glu  
 85 90 95

Cys Ile Ser Gln Met Tyr Phe Phe Ile Phe Phe Thr Asp Leu Asp Ser  
 100 105 110

Phe Leu Ile Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Arg Glu Glu Leu Cys Val Phe Leu  
 130 135 140

Val Ala Val Ser Trp Ile Leu Ser Cys Ala Ser Ser Leu Ser His Thr  
 145 150 155 160

Leu Leu Leu Thr Arg Leu Ser Phe Cys Ala Ala Asn Thr Ile Pro His

[illegible]

35	40	45	
ttc atc tat act ttt att atc att gat aac tta tta atc ttc tct gct Phe Ile Tyr Thr Phe Ile Ile Ile Asp Asn Leu Leu Ile Phe Ser Ala 50 55 60			192
gta agg ctg gac acc cat ctc cac aac ccc atg tat aat ttt atc agt Val Arg Leu Asp Thr His Leu His Asn Pro Met Tyr Asn Phe Ile Ser 65 70 75 80			240
ata ttt tcc ttt ctg gag atc tgg tac acc aca gcc acc att ccc aag Ile Phe Ser Phe Leu Glu Ile Trp Tyr Thr Thr Ala Thr Ile Pro Lys 85 90 95			288
atg ctc tcc aac ctc atc agt gaa aag aag gcc atc tca atg act ggc Met Leu Ser Asn Leu Ile Ser Glu Lys Lys Ala Ile Ser Met Thr Gly 100 105 110			336
tgc atc ttg cag atg tat ttc ttc cac tca ctt gaa aac tca gag ggg Cys Ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly 115 120 125			384
atc ttg ctg acc acc atg gcc att gac aga tac gtt gcc atc tgc aac Ile Leu Leu Thr Thr Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Asn 130 135 140			432
cct ctt cgc tat caa atg atc atg acc ccc cgg ctc tgt gct caa ctc Pro Leu Arg Tyr Gln Met Ile Met Thr Pro Arg Leu Cys Ala Gln Leu 145 150 155 160			480
tct gca ggt tcc tgc ctc ttc ggt ttc ctt atc ctg ctt ccc gag att Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile 165 170 175			528
gtg atg att tcc aca ctg cct ttc tgt ggg ccc aac caa atc cat cag Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln 180 185 190			576
atc ttc tgt gac ttg gtc cct gtg cta agc ctg gcc tgt aca gac acg Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr 195 200 205			624
tcc atg att ctg att gag gat gtg att cat gct gtg acc atc atc att Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile 210 215 220			672
acc ttc cta atc att gcc ctg tcc tat gta aga att gtc act gtg ata Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile 225 230 235 240			720
ttg agg att ccc tct tct gaa ggg agg caa aag gct ttt tct acc tgt Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys 245 250 255			768
gca ggc cac ctc atg gtc ttc ccg ata ttc ttt ggc agt gta tca ctc Ala Gly His Leu Met Val Phe Pro Ile Phe Phe Gly Ser Val Ser Leu 260 265 270			816
atg tac ttg cgt ttc agc gac act tat cca cca gtt ttg gac aca gcc Met Tyr Leu Arg Phe Ser Asp Thr Tyr Pro Pro Val Leu Asp Thr Ala 275 280 285			864

att gca ctg atg ttt act gta ctt gct cca ttc ttc aat ccc atc att 912  
 ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro ile ile  
 290 295 300

tat agc ctg aga aac aag gac atg aac aat gcg att aaa aaa ctg ttc 960  
 Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala ile Lys Lys Leu Phe  
 305 310 315 320

tgt ctt caa aaa gtg ttg aac aag cct gga ggt taa 996  
 Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly  
 325 330

<210> 478

<211> 331

<212> PRT

<213> Homo Sapiens

<400> 478

Met Cys Trp Thr Met Pro Ser Pro Phe Thr Gly Ser Ser Thr Arg Asn  
 1 5 10 15

Met Glu Ser Gly Asn Gln Ser Thr Val Thr Glu Phe ile Phe Thr Gly  
 20 25 30

Phe Pro Gln Leu Gln Asp Gly Ser Leu Leu Tyr Phe Phe Pro Leu Leu  
 35 40 45

Phe ile Tyr Thr Phe ile ile ile Asp Asn Leu Leu ile Phe Ser Ala  
 50 55 60

Val Arg Leu Asp Thr His Leu His Asn Pro Met Tyr Asn Phe ile Ser  
 65 70 75 80

ile Phe Ser Phe Leu Glu ile Trp Tyr Thr Thr Ala Thr ile Pro Lys  
 85 90 95

Met Leu Ser Asn Leu ile Ser Glu Lys Lys Ala ile Ser Met Thr Gly  
 100 105 110

Cys ile Leu Gln Met Tyr Phe Phe His Ser Leu Glu Asn Ser Glu Gly  
 115 120 125

ile Leu Leu Thr Thr Met Ala ile Asp Arg Tyr Val Ala ile Cys Asn  
 130 135 140

Pro Leu Arg Tyr Gln Met ile Met Thr Pro Arg Leu Cys Ala Gln Leu  
 145 150 155 160

Ser Ala Gly Ser Cys Leu Phe Gly Phe Leu Ile Leu Leu Pro Glu Ile  
 165 170 175

Val Met Ile Ser Thr Leu Pro Phe Cys Gly Pro Asn Gln Ile His Gln  
 180 185 190

Ile Phe Cys Asp Leu Val Pro Val Leu Ser Leu Ala Cys Thr Asp Thr  
 195 200 205

Ser Met Ile Leu Ile Glu Asp Val Ile His Ala Val Thr Ile Ile Ile  
 210 215 220

Thr Phe Leu Ile Ile Ala Leu Ser Tyr Val Arg Ile Val Thr Val Ile  
 225 230 235 240

Leu Arg Ile Pro Ser Ser Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys  
 245 250 255

Ala Gly His Leu Met Val Phe Pro Ile Phe Phe Gly Ser Val Ser Leu  
 260 265 270

Met Tyr Leu Arg Phe Ser Asp Thr Tyr Pro Pro Val Leu Asp Thr Ala  
 275 280 285

Ile Ala Leu Met Phe Thr Val Leu Ala Pro Phe Phe Asn Pro Ile Ile  
 290 295 300

Tyr Ser Leu Arg Asn Lys Asp Met Asn Asn Ala Ile Lys Lys Leu Phe  
 305 310 315 320

Cys Leu Gln Lys Val Leu Asn Lys Pro Gly Gly  
 325 330

<210> 479

<211> 945

<212> DNA

<213> Homo Sapiens

<220>

<221> CDS

<222> (1) .. (942)

<223>

<400> 479

atg gag aca aga aat tac tct gcc atg act gaa ttc ttt ctg gtg ggg 48  
 Met Glu Thr Arg Asn Tyr Ser Ala Met Thr Glu Phe Phe Leu Val Gly  
 1 5 10 15

ctt tcc caa tat cca gag ctc cag ctt ttt ctg ttc ctg ctc tgc ctc 96

Leu	Ser	Gln	Tyr	Pro	Glu	Leu	Gln	Leu	Phe	Leu	Phe	Leu	Leu	Cys	Leu	
		20					25					30				
atc	atg	tac	atg	ata	atc	ctc	ctg	gga	aat	agc	ctc	ctc	att	atc	atc	144
Ile	Met	Tyr	Met	Ile	Ile	Leu	Leu	Gly	Asn	Ser	Leu	Leu	Ile	Ile	Ile	
		35				40					45					
acc	atc	ttg	gat	tct	cgc	ctc	cat	act	ccc	atg	tat	ttc	ttt	ctt	gga	192
Thr	Ile	Leu	Asp	Ser	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly	
	50				55				60							
aac	ctc	tca	ttc	ttg	gac	atc	tgt	tac	aca	tcc	tca	tcc	att	cct	cca	240
Asn	Leu	Ser	Phe	Leu	Asp	Ile	Cys	Tyr	Thr	Ser	Ser	Ser	Ile	Pro	Pro	
65				70					75					80		
atg	ctt	att	ata	ttt	atg	tct	gag	aga	aaa	tcc	atc	tcc	ttc	att	ggc	288
Met	Leu	Ile	Ile	Phe	Met	Ser	Glu	Arg	Lys	Ser	Ile	Ser	Phe	Ile	Gly	
			85					90					95			
tgt	gct	ctg	cag	atg	gtt	gtg	tcc	ctt	ggc	ttg	ggc	tcc	act	gag	tgt	336
Cys	Ala	Leu	Gln	Met	Val	Val	Ser	Leu	Gly	Leu	Gly	Ser	Thr	Glu	Cys	
		100					105					110				
gtc	ctc	ctg	gct	gtg	atg	gcc	tat	gac	cac	tat	gtg	gcc	atc	tgc	aac	384
Val	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	His	Tyr	Val	Ala	Ile	Cys	Asn	
	115					120					125					
cca	ctg	agg	tac	tcc	atc	atc	atg	aac	gga	gtg	ctg	tat	gtg	caa	atg	432
Pro	Leu	Arg	Tyr	Ser	Ile	Ile	Met	Asn	Gly	Val	Leu	Tyr	Val	Gln	Met	
	130					135				140						
gct	gca	tggt	tcc	tggt	atc	ata	ggc	tgt	ctg	acc	tcc	cta	ttg	caa	aca	480
Ala	Ala	Trp	Ser	Trp	Ile	Ile	Gly	Cys	Leu	Thr	Ser	Leu	Leu	Gln	Thr	
145				150				155						160		
gtt	ctg	aca	atg	atg	ttg	cct	ttc	tgt	ggg	aat	aat	gtc	att	gat	cat	528
Val	Leu	Thr	Met	Met	Leu	Pro	Phe	Cys	Gly	Asn	Asn	Val	Ile	Asp	His	
			165					170					175			
att	acc	tgt	gaa	att	ttg	gcc	ctt	cta	aaa	ctt	gtt	tgt	tca	gat	atc	576
Ile	Thr	Cys	Glu	Ile	Leu	Ala	Leu	Leu	Lys	Leu	Val	Cys	Ser	Asp	Ile	
		180					185					190				
acc	atc	aat	gtg	ctt	atc	atg	aca	gtg	aca	aat	att	gtt	tca	ctg	gtg	624
Thr	Ile	Asn	Val	Leu	Ile	Met	Thr	Val	Thr	Asn	Ile	Val	Ser	Leu	Val	
	195					200					205					
att	ctt	cta	ctg	tta	att	ttc	atc	tcc	tat	gtg	ttt	att	ctc	tct	tcc	672
Ile	Leu	Leu	Leu	Leu	Ile	Phe	Ile	Ser	Tyr	Val	Phe	Ile	Leu	Ser	Ser	
	210					215					220					
atc	ctg	aga	att	aat	tgt	gct	gag	gga	aga	aag	aaa	gcc	ttc	tct	acc	720
Ile	Leu	Arg	Ile	Asn	Cys	Ala	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr	
225				230				235						240		
tgt	tca	gcg	cac	tcg	att	gtg	gtc	atc	tta	ttc	tac	ggg	tca	gcc	ctt	768
Cys	Ser	Ala	His	Ser	Ile	Val	Val	Ile	Leu	Phe	Tyr	Gly	Ser	Ala	Leu	
			245				250					255				
ttt	atg	tac	atg	aaa	ccc	aag	tca	aag	aac	act	aat	aca	tct	gat	gag	816
Phe	Met	Tyr	Met	Lys	Pro	Lys	Ser	Lys	Asn	Thr	Asn	Thr	Ser	Asp	Glu	



260	265	270	
att att ggg ctg tct tat gga gtg gta agc cca atg tta aat ccc atc			864
Ile Ile Gly Leu Ser Tyr Gly Val Val Ser Pro Met Leu Asn Pro Ile			
275	280	285	
atc tat agc ctc agg aat aaa gag gtc aaa gag gct gta aag aaa gtc			912
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Val Lys Lys Val			
290	295	300	
ctg agc aga cat ctg cat tta ttg aaa atg tga			945
Leu Ser Arg His Leu His Leu Leu Lys Met			
305	310		

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 <212> PRT  
 <213> Homo Sapiens

<400> 480

Met Glu Thr Arg Asn Tyr Ser Ala Met Thr Glu Phe Phe Leu Val Gly
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Leu Ser Gln Tyr Pro Glu Leu Gln Leu Phe Leu Phe Leu Leu Cys Leu
20 25 30

Ile Met Tyr Met Ile Ile Leu Leu Gly Asn Ser Leu Leu Ile Ile Ile
35 40 45

Thr Ile Leu Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly
50 55 60

Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Ser Ser Ser Ile Pro Pro
65 70 75 80

Met Leu Ile Ile Phe Met Ser Glu Arg Lys Ser Ile Ser Phe Ile Gly
85 90 95

Cys Ala Leu Gln Met Val Val Ser Leu Gly Leu Gly Ser Thr Glu Cys
100 105 110

Val Leu Leu Ala Val Met Ala Tyr Asp His Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Arg Tyr Ser Ile Ile Met Asn Gly Val Leu Tyr Val Gln Met
130 135 140

Ala Ala Trp Ser Trp Ile Ile Gly Cys Leu Thr Ser Leu Leu Gln Thr
145 150 155 160

Val Leu Thr Met Met Leu Pro Phe Cys Gly Asn Asn Val Ile Asp His  
165 170 175

Ile Thr Cys Glu Ile Leu Ala Leu Leu Lys Leu Val Cys Ser Asp Ile  
180 185 190

Thr Ile Asn Val Leu Ile Met Thr Val Thr Asn Ile Val Ser Leu Val  
195 200 205

Ile Leu Leu Leu Leu Ile Phe Ile Ser Tyr Val Phe Ile Leu Ser Ser  
210 215 220

Ile Leu Arg Ile Asn Cys Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ser Ala His Ser Ile Val Val Ile Leu Phe Tyr Gly Ser Ala Leu  
245 250 255

Phe Met Tyr Met Lys Pro Lys Ser Lys Asn Thr Asn Thr Ser Asp Glu  
260 265 270

Ile Ile Gly Leu Ser Tyr Gly Val Val Ser Pro Met Leu Asn Pro Ile  
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Val Lys Lys Val  
290 295 300

Leu Ser Arg His Leu His Leu Leu Lys Met  
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<211> 972

<212> DNA

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<222> (1)..(969)

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gcc ccc acc ttc ttg ctg gtg ggc atg cca ggc cta tca ggt gca ccc 96  
Ala Pro Thr Phe Leu Leu Val Gly Met Pro Gly Leu Ser Gly Ala Pro  
20 25 30

tcc tgg tgg aca ttg ccc ctc att gct gtc tac ctt ctc tct gca ctg	144
Ser Trp Trp Thr Leu Pro Leu Ile Ala Val Tyr Leu Leu Ser Ala Leu	
35 40 45	
gga aat ggc acc atc ctc tgg atc att gcc ctg cag ccc gcc ctg cac	192
Gly Asn Gly Thr Ile Leu Trp Ile Ile Ala Leu Gln Pro Ala Leu His	
50 55 60	
cgc cca atg cac ttc ttc ctc ttc ttg ctt agt gtg tct gat att gga	240
Arg Pro Met His Phe Phe Leu Phe Leu Leu Ser Val Ser Asp Ile Gly	
65 70 75 80	
ttg gtc act gcc ctg atg ccc aca ctg ctg ggc atc gcc ctt gct ggt	288
Leu Val Thr Ala Leu Met Pro Thr Leu Leu Gly Ile Ala Leu Ala Gly	
85 90 95	
gct cac act gtc cct gcc tca gcc tgc ctt cta cag atg gtt ttt atc	336
Ala His Thr Val Pro Ala Ser Ala Cys Leu Leu Gln Met Val Phe Ile	
100 105 110	
cat gtc ttt tct gtc atg gag tcc tct gtc ttg ctc gcc atg tcc att	384
His Val Phe Ser Val Met Glu Ser Ser Val Leu Leu Ala Met Ser Ile	
115 120 125	
gat cgg gca ctg gcc atc tgc cga cct ctc cac tac cca gcg ctc ctc	432
Asp Arg Ala Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Ala Leu Leu	
130 135 140	
acc aat ggt gta att agc aaa atc agc ctg gcc att tct ttt cga tgc	480
Thr Asn Gly Val Ile Ser Lys Ile Ser Leu Ala Ile Ser Phe Arg Cys	
145 150 155 160	
ctg ggt ctc cat ctg ccc ctg cca ttc ctg ctg gcc tac atg ccc tac	528
Leu Gly Leu His Leu Pro Leu Pro Phe Leu Leu Ala Tyr Met Pro Tyr	
165 170 175	
tgc ctc cca cag gtc cta acc cat tct tat tgc ttg cat cca gat gtg	576
Cys Leu Pro Gln Val Leu Thr His Ser Tyr Cys Leu His Pro Asp Val	
180 185 190	
gct cgt ttg gcc tgc cca gaa gct tgg ggt gca gcc tac agc cta ttt	624
Ala Arg Leu Ala Cys Pro Glu Ala Trp Gly Ala Ala Tyr Ser Leu Phe	
195 200 205	
gtg gtt ctt tca gcc atg ggt ttg gac ccc ctg ctt att ttc ttc tcc	672
Val Val Leu Ser Ala Met Gly Leu Asp Pro Leu Leu Ile Phe Phe Ser	
210 215 220	
tat ggc ctg att ggc aag gtg ttg caa ggt gtg gag tcc aga gag gat	720
Tyr Gly Leu Ile Gly Lys Val Leu Gln Gly Val Glu Ser Arg Glu Asp	
225 230 235 240	
cgc tgg aag gct ggt caa acc tgt gct gcc cac ctc tct gca gtg ctc	768
Arg Trp Lys Ala Gly Gln Thr Cys Ala Ala His Leu Ser Ala Val Leu	
245 250 255	
ctc ttc tat atc cct atg atc ctc ctg gca ctg att aac cat cct gag	816
Leu Phe Tyr Ile Pro Met Ile Leu Leu Ala Leu Ile Asn His Pro Glu	
260 265 270	
ctg cca atc act cag cat acc cat act ctt cta tcc tat gtc cat ttc	864

Thr	Asn	Gly	Val	Ile	Ser	Lys	Ile	Ser	Leu	Ala	Ile	Ser	Phe	Arg	Cys
145					150					155					160

Leu Gly Leu His Leu Pro Leu Pro Phe Leu Leu Ala Tyr Met Pro Tyr  
 165 170 175

Cys Leu Pro Gln Val Leu Thr His Ser Tyr Cys Leu His Pro Asp Val  
 180 185 190

Ala Arg Leu Ala Cys Pro Glu Ala Trp Gly Ala Ala Tyr Ser Leu Phe  
 195 200 205

Val Val Leu Ser Ala Met Gly Leu Asp Pro Leu Leu Ile Phe Phe Ser  
 210 215 220

Tyr Gly Leu Ile Gly Lys Val Leu Gln Gly Val Glu Ser Arg Glu Asp  
 225 230 235 240

Arg Trp Lys Ala Gly Gln Thr Cys Ala Ala His Leu Ser Ala Val Leu  
 245 250 255

Leu Phe Tyr Ile Pro Met Ile Leu Leu Ala Leu Ile Asn His Pro Glu  
 260 265 270

Leu Pro Ile Thr Gln His Thr His Thr Leu Leu Ser Tyr Val His Phe  
 275 280 285

Leu Leu Pro Pro Leu Ile Asn Pro Ile Leu Tyr Ser Val Lys Met Lys  
 290 295 300

Glu Ile Arg Lys Arg Ile Leu Asn Arg Leu Gln Pro Arg Lys Val Gly  
 305 310 315 320

Gly Ala Gln

<210> 483  
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 <212> DNA  
 <213> Homo Sapiens

<220>  
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ctg ctg ggc ctc	aca gag act gca gct	cta cag ccc atc ctc	ttt gtc	96
Leu Leu Gly Leu	Thr Glu Thr Ala Ala	Leu Gln Pro Ile Leu	Phe Val	
20	25	30		
atc ttc ctt ctt	gct tac gtc act acc	att gga ggc acc ctc	agc atc	144
Ile Phe Leu Leu	Ala Tyr Val Thr Thr	Ile Gly Gly Thr Leu	Ser Ile	
35	40	45		
ctg gcg gcc atc	ctt atg gaa acc aaa	ctc cac agc ccc atg	tac ttc	192
Leu Ala Ala Ile	Leu Met Glu Thr Lys	Leu His Ser Pro Met	Tyr Phe	
50	55	60		
ttc ctg ggg aac	ttg tcc ctg cca gat	gtg ggg tgt gtc agt	gtc act	240
Phe Leu Gly Asn	Leu Ser Leu Pro Asp	Val Gly Cys Val Ser	Val Thr	
65	70	75	80	
gtc cct gcc atg	ctg agc cat ttc ata	tcc aac gac aga agc	att ccc	288
Val Pro Ala Met	Leu Ser His Phe Ile	Ser Asn Asp Arg Ser	Ile Pro	
85	90	95		
tat aag gcc tgc	ctc tcc gag ctc ttc	ttc ttc ctc ctc	ctg gct ggg	336
Tyr Lys Ala Cys	Leu Ser Glu Leu Phe	Phe Phe His Leu Leu	Ala Gly	
100	105	110		
gca gac tgc ttc	ttg ctg acc atc atg	gcc tat gac cgc tat	ctg gcc	384
Ala Asp Cys Phe	Leu Leu Thr Ile Met	Ala Tyr Asp Arg Tyr	Leu Ala	
115	120	125		
atc tgc cag tcc	ctc acc tac agc agc	cgc atg agc tgg gga	atc cag	432
Ile Cys Gln Ser	Leu Thr Tyr Ser Ser	Arg Met Ser Trp Gly	Ile Gln	
130	135	140		
caa gcc ctg gtg	ggc atg tca tgt gtc	ttt tcc ttc acc aat	gca ctg	480
Gln Ala Leu Val	Gly Met Ser Cys Val	Phe Ser Phe Thr Asn	Ala Leu	
145	150	155	160	
acc caa act gtt	gcc ctg tct cct ctt	aac ttc tgt ggc ccc	aat gtg	528
Thr Gln Thr Val	Ala Leu Ser Pro Leu	Asn Phe Cys Gly Pro	Asn Val	
165	170	175		
atc aat cac ttc	tac tgt gac ctc cca	cag ccc ttc cag ctc	tcc tgc	576
Ile Asn His Phe	Tyr Cys Asp Leu Pro	Gln Pro Phe Gln Leu	Ser Cys	
180	185	190		
gcc agt gtt cat	ctc aat ggg cag ttg	ctg ttt gta gca gca	gct ttc	624
Ala Ser Val His	Leu Asn Gly Gln Leu	Leu Phe Val Ala Ala	Ala Phe	
195	200	205		
atg ggt gtg gcc	ccc ttg gtc ctc atc	act gtg tcc tat gcc	cat gtg	672
Met Gly Val Ala	Pro Leu Val Leu Ile	Thr Val Ser Tyr Ala	His Val	
210	215	220		
gca gct gca gtc	ctg cga atc cgc tct	gca gag ggc aaa aag	aaa gcc	720
Ala Ala Ala Val	Leu Arg Ile Arg Ser	Ala Glu Gly Lys Lys	Lys Ala	
225	230	235	240	
ttc tcc acg tgt	agt tcc cac ctc act	gtg gtg ggc atc ttc	tat ggg	768
Phe Ser Thr Cys	Ser Ser His Leu Thr	Val Val Gly Ile Phe	Tyr Gly	
245	250	255		

acg ggc gtc ttc agc tac aca agg ctg ggt tca gtg gag tct tcg gac 816  
 Thr Gly Val Phe Ser Tyr Thr Arg Leu Gly Ser Val Glu Ser Ser Asp  
 260 265 270

aag gac aag ggc att ggc atc ctc aac act gtc atc agc ccc atg ctg 864  
 Lys Asp Lys Gly Ile Gly Ile Leu Asn Thr Val Ile Ser Pro Met Leu  
 275 280 285

aac cca ctc atc tac tgg aca tct ctg ctg gac gtc ggg tgc atc agt 912  
 Asn Pro Leu Ile Tyr Trp Thr Ser Leu Leu Asp Val Gly Cys Ile Ser  
 290 295 300

cac tgt tcc tcc gat gct ggc gtg tct cca ggc cca cca gtg cag agt 960  
 His Cys Ser Ser Asp Ala Gly Val Ser Pro Gly Pro Pro Val Gln Ser  
 305 310 315 320

tcc cta tgc tgc ctg cag ttc aca gct ctt ctt tcc cca cct cct ggc 1008  
 Ser Leu Cys Cys Leu Gln Phe Thr Ala Leu Leu Ser Pro Pro Pro Gly  
 325 330 335

tgg ggt gga ctg tca cct ctt aat agc cat ggc cta tga 1047  
 Trp Gly Gly Leu Ser Pro Leu Asn Ser His Gly Leu  
 340 345

<210> 484  
 <211> 348  
 <212> PRT  
 <213> Homo Sapiens

<400> 484  
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Ile Phe Leu Leu Ala Tyr Val Thr Thr Ile Gly Gly Thr Leu Ser Ile  
 35 40 45

Leu Ala Ala Ile Leu Met Glu Thr Lys Leu His Ser Pro Met Tyr Phe  
 50 55 60

Phe Leu Gly Asn Leu Ser Leu Pro Asp Val Gly Cys Val Ser Val Thr  
 65 70 75 80

Val Pro Ala Met Leu Ser His Phe Ile Ser Asn Asp Arg Ser Ile Pro  
 85 90 95

Tyr Lys Ala Cys Leu Ser Glu Leu Phe Phe Phe His Leu Leu Ala Gly  
 100 105 110

Ala Asp Cys Phe Leu Leu Thr Ile Met Ala Tyr Asp Arg Tyr Leu Ala

115					120					125					
Ile	Cys	Gln	Ser	Leu	Thr	Tyr	Ser	Ser	Arg	Met	Ser	Trp	Gly	Ile	Gln
130						135					140				
Gln	Ala	Leu	Val	Gly	Met	Ser	Cys	Val	Phe	Ser	Phe	Thr	Asn	Ala	Leu
145					150					155					160
Thr	Gln	Thr	Val	Ala	Leu	Ser	Pro	Leu	Asn	Phe	Cys	Gly	Pro	Asn	Val
				165					170					175	
Ile	Asn	His	Phe	Tyr	Cys	Asp	Leu	Pro	Gln	Pro	Phe	Gln	Leu	Ser	Cys
			180					185					190		
Ala	Ser	Val	His	Leu	Asn	Gly	Gln	Leu	Leu	Phe	Val	Ala	Ala	Ala	Phe
		195					200					205			
Met	Gly	Val	Ala	Pro	Leu	Val	Leu	Ile	Thr	Val	Ser	Tyr	Ala	His	Val
	210					215					220				
Ala	Ala	Ala	Val	Leu	Arg	Ile	Arg	Ser	Ala	Glu	Gly	Lys	Lys	Lys	Ala
225					230					235					240
Phe	Ser	Thr	Cys	Ser	Ser	His	Leu	Thr	Val	Val	Gly	Ile	Phe	Tyr	Gly
				245					250					255	
Thr	Gly	Val	Phe	Ser	Tyr	Thr	Arg	Leu	Gly	Ser	Val	Glu	Ser	Ser	Asp
			260					265					270		
Lys	Asp	Lys	Gly	Ile	Gly	Ile	Leu	Asn	Thr	Val	Ile	Ser	Pro	Met	Leu
	275						280				285				
Asn	Pro	Leu	Ile	Tyr	Trp	Thr	Ser	Leu	Leu	Asp	Val	Gly	Cys	Ile	Ser
	290					295					300				
His	Cys	Ser	Ser	Asp	Ala	Gly	Val	Ser	Pro	Gly	Pro	Pro	Val	Gln	Ser
305					310					315				320	
Ser	Leu	Cys	Cys	Leu	Gln	Phe	Thr	Ala	Leu	Leu	Ser	Pro	Pro	Pro	Gly
				325					330					335	
Trp	Gly	Gly	Leu	Ser	Pro	Leu	Asn	Ser	His	Gly	Leu				
			340					345							

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<211> 1053



<212> DNA  
<213> Homo Sapiens

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<223> any nucleotide

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tat tat att ctc tta aag ata ctg gag aca gag cat gat ggg aca aaa      96
Tyr Tyr Ile Leu Leu Lys Ile Leu Glu Thr Glu His Asp Gly Thr Lys
          20          25          30

tca aac cag cat ctc aga ctt cct gct cct ggc ctg ccc atc caa cca      144
Ser Asn Gln His Leu Arg Leu Pro Ala Pro Gly Leu Pro Ile Gln Pro
          35          40          45

gag cag caa aac ctg tgc tat gcc ctg ttc ttg gcc atg tat ctt acc      192
Glu Gln Gln Asn Leu Cys Tyr Ala Leu Phe Leu Ala Met Tyr Leu Thr
          50          55          60

acc ctc ctg ggg aac ctc ctc atc att gtc ctc att cga ctg gac tcc      240
Thr Leu Leu Gly Asn Leu Leu Ile Ile Val Leu Ile Arg Leu Asp Ser
          65          70          75          80

cat ctc cac acg cct gtg tat ttg ttt ctc agc aac ttg tcc ttc tct      288
His Leu His Thr Pro Val Tyr Leu Phe Leu Ser Asn Leu Ser Phe Ser
          85          90          95

gac ctc tgc ttt tcc tca gtc aca atg ccc aaa ttg ctg cag aac atg      336
Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys Leu Leu Gln Asn Met
          100          105          110

cag aac caa gac cca tcc atc ccc tat gca gac tgc ctg acc caa atg      384
Gln Asn Gln Asp Pro Ser Ile Pro Tyr Ala Asp Cys Leu Thr Gln Met
          115          120          125

tac ttc ttc ttg tat ttt tcg gat cta gag agc ttc ctc ctt gtg gcc      432
Tyr Phe Phe Leu Tyr Phe Ser Asp Leu Glu Ser Phe Leu Leu Val Ala
          130          135          140

atg gcc tat gac cgc tat gtg gcc atc tgc ttc ccc atg cac tac acc      480
Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Met His Tyr Thr
          145          150          155          160

gcc atc tgc ttc ctc ctg cac tac acc gcc atc atg agc ccc atg ctc      528
Ala Ile Cys Phe Leu Leu His Tyr Thr Ala Ile Met Ser Pro Met Leu
          165          170          175

tgt ctc tcc gtg gtg gcg ctg tcc tgg gtg ctg acc acc ttc cat gcc      576

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Cys Leu Ser Val Val Ala Leu Ser Trp Val Leu Thr Thr Phe His Ala
      180                      185                      190

atg tta cac act tta ctc atg gcc agg ttg tgt ttt tgt gca gac aat      624
Met Leu His Thr Leu Leu Met Ala Arg Leu Cys Phe Cys Ala Asp Asn
      195                      200                      205

gtg atc ccc cac ttt ttc tgt gat atg tct gct ctg ctg aag ctg gcc      672
Val Ile Pro His Phe Phe Cys Asp Met Ser Ala Leu Leu Lys Leu Ala
      210                      215                      220

tgc tct gac act cga gtt aat gaa tgg gtg ata ttt atc atg gga ggg      720
Cys Ser Asp Thr Arg Val Asn Glu Trp Val Ile Phe Ile Met Gly Gly
      225                      230                      235                      240

ctc att ctt gtc atc cca ttc cta ctc atc ctt ggg tcc tat gca aga      768
Leu Ile Leu Val Ile Pro Phe Leu Leu Ile Leu Gly Ser Tyr Ala Arg
      245                      250                      255

att gtc tcc tcc atc ctc aag gtc cct tct tct aag ggt atc tgc aag      816
Ile Val Ser Ser Ile Leu Lys Val Pro Ser Ser Lys Gly Ile Cys Lys
      260                      265                      270

gcc ttc tct act tgt ggc tcc cac ctc tct gtg gtg tca ctg ttc tat      864
Ala Phe Ser Thr Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr
      275                      280                      285

ggg acc gtt att ggt ctc tac tta tgc cca tca gct aat agt tct act      912
Gly Thr Val Ile Gly Leu Tyr Leu Cys Pro Ser Ala Asn Ser Ser Thr
      290                      295                      300

cta aag gac act gtc atg gct atg atg tac act gtg gtg acc cct atg      960
Leu Lys Asp Thr Val Met Ala Met Met Tyr Thr Val Val Thr Pro Met
      305                      310                      315                      320

ctg acc ccc ttc atc tac agc ctg agg aac aga gac atg aag gga gcc      1008
Leu Thr Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Gly Ala
      325                      330                      335

ctg gaa agg gtc att tgt aaa agg aaa aat ccc ttc ctt cta tga      1053
Leu Glu Arg Val Ile Cys Lys Arg Lys Asn Pro Phe Leu Leu
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<210> 486

<211> 350

<212> PRT

<213> Homo Sapiens

<220>

<221> misc\_feature

<222> (9)..(9)

<223> The 'Xaa' at location 9 stands for Tyr, Cys, Ser, or Phe.

<220>

<221> misc\_feature

<222> (26)..(26)

<223> any nucleotide

<400> 486

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Ser Asn Gln His Leu Arg Leu Pro Ala Pro Gly Leu Pro Ile Gln Pro	35	40	45
Glu Gln Gln Asn Leu Cys Tyr Ala Leu Phe Leu Ala Met Tyr Leu Thr	50	55	60
Thr Leu Leu Gly Asn Leu Leu Ile Ile Val Leu Ile Arg Leu Asp Ser	65	70	75
His Leu His Thr Pro Val Tyr Leu Phe Leu Ser Asn Leu Ser Phe Ser	85	90	95
Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys Leu Leu Gln Asn Met	100	105	110
Gln Asn Gln Asp Pro Ser Ile Pro Tyr Ala Asp Cys Leu Thr Gln Met	115	120	125
Tyr Phe Phe Leu Tyr Phe Ser Asp Leu Glu Ser Phe Leu Leu Val Ala	130	135	140
Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe Pro Met His Tyr Thr	145	150	155
Ala Ile Cys Phe Leu Leu His Tyr Thr Ala Ile Met Ser Pro Met Leu	165	170	175
Cys Leu Ser Val Val Ala Leu Ser Trp Val Leu Thr Thr Phe His Ala	180	185	190
Met Leu His Thr Leu Leu Met Ala Arg Leu Cys Phe Cys Ala Asp Asn	195	200	205
Val Ile Pro His Phe Phe Cys Asp Met Ser Ala Leu Leu Lys Leu Ala	210	215	220
Cys Ser Asp Thr Arg Val Asn Glu Trp Val Ile Phe Ile Met Gly Gly	225	230	235
Leu Ile Leu Val Ile Pro Phe Leu Leu Ile Leu Gly Ser Tyr Ala Arg	245	250	255

Ile Val Ser Ser Ile Leu Lys Val Pro Ser Ser Lys Gly Ile Cys Lys  
260 265 270

Ala Phe Ser Thr Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr  
275 280 285

Gly Thr Val Ile Gly Leu Tyr Leu Cys Pro Ser Ala Asn Ser Ser Thr  
290 295 300

Leu Lys Asp Thr Val Met Ala Met Met Tyr Thr Val Val Thr Pro Met  
305 310 315 320

Leu Thr Pro Phe Ile Tyr Ser Leu Arg Asn Arg Asp Met Lys Gly Ala  
325 330 335

Leu Glu Arg Val Ile Cys Lys Arg Lys Asn Pro Phe Leu Leu  
340 345 350

<210> 487  
<211> 972  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(969)  
<223>

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48

Met Met Gly Gln Asn Gln Thr Ser Ile Ser Asp Phe Leu Leu Gly  
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ctg ccc atc caa cca gag cag caa aac ctg tgc tat gcc ctg ttc ttg 96

Leu Pro Ile Gln Pro Glu Gln Gln Asn Leu Cys Tyr Ala Leu Phe Leu  
20 25 30

gcc atg tat ctt acc acc ctc ctg ggg aac ctc ctc atc att gtc ctc 144

Ala Met Tyr Leu Thr Thr Leu Leu Gly Asn Leu Leu Ile Ile Val Leu  
35 40 45

att cga ctg gac tcc cat ctc cac acg cct gtg tat ttg ttt ctc agc 192

Ile Arg Leu Asp Ser His Leu His Thr Pro Val Tyr Leu Phe Leu Ser  
50 55 60

aac ttg tcc ttc tct gac ctc tgc ttt tcc tca gtc aca atg ccc aaa 240

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys  
65 70 75 80

ttg ctg cag aac atg cag aac caa gac cca tcc atc ccc tat gca gac 288

Leu Leu Gln Asn Met Gln Asn Gln Asp Pro Ser Ile Pro Tyr Ala Asp  
85 90 95

tgc ctg acc caa atg tac ttc ttc ttg tat ttt tcg gat cta gag agc	336
Cys Leu Thr Gln Met Tyr Phe Phe Leu Tyr Phe Ser Asp Leu Glu Ser	
100 105 110	
ttc ctc ctt gtg gcc atg gcc tat gac cgc tat gtg gcc atc tgc ttc	384
Phe Leu Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe	
115 120 125	
ccc atg cac tac acc gcc atc tgc ttc ctc ctg cac tac acc gcc atc	432
Pro Met His Tyr Thr Ala Ile Cys Phe Leu Leu His Tyr Thr Ala Ile	
130 135 140	
atg agc ccc atg ctc tgt ctc tcc gtg gtg gcg ctg tcc tgg gtg ctg	480
Met Ser Pro Met Leu Cys Leu Ser Val Val Ala Leu Ser Trp Val Leu	
145 150 155 160	
acc acc ttc cat gcc atg tta cac act tta ctc atg gcc agg ttg tgt	528
Thr Thr Phe His Ala Met Leu His Thr Leu Leu Met Ala Arg Leu Cys	
165 170 175	
ttt tgt gca gac aat gtg atc ccc cac ttt ttc tgt gat atg tct gct	576
Phe Cys Ala Asp Asn Val Ile Pro His Phe Phe Cys Asp Met Ser Ala	
180 185 190	
ctg ctg aag ctg gcc tgc tct gac act cga gtt aat gaa tgg gtg ata	624
Leu Leu Lys Leu Ala Cys Ser Asp Thr Arg Val Asn Glu Trp Val Ile	
195 200 205	
ttt atc atg gga ggg ctc att ctt gtc atc cca ttc cta ctc atc ctt	672
Phe Ile Met Gly Gly Leu Ile Leu Val Ile Pro Phe Leu Leu Ile Leu	
210 215 220	
ggg tcc tat gca aga att gtc tcc tcc atc ctc aag gtc cct tct tct	720
Gly Ser Tyr Ala Arg Ile Val Ser Ser Ile Leu Lys Val Pro Ser Ser	
225 230 235 240	
aag ggt atc tgc aag gcc ttc tct act tgt ggc tcc cac ctc tct gtg	768
Lys Gly Ile Cys Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ser Val	
245 250 255	
gtg tca ctg ttc tat ggg acc gtt att ggt ctc tac tta tgc cca tca	816
Val Ser Leu Phe Tyr Gly Thr Val Ile Gly Leu Tyr Leu Cys Pro Ser	
260 265 270	
gct aat agt tct act cta aag gac act gtc atg gct atg atg tac act	864
Ala Asn Ser Ser Thr Leu Lys Asp Thr Val Met Ala Met Met Tyr Thr	
275 280 285	
gtg gtg acc cct atg ctg acc ccc ttc atc tac agc ctg agg aac aga	912
Val Val Thr Pro Met Leu Thr Pro Phe Ile Tyr Ser Leu Arg Asn Arg	
290 295 300	
gac atg aag gga gcc ctg gaa agg gtc att tgt aaa agg aaa aat ccc	960
Asp Met Lys Gly Ala Leu Glu Arg Val Ile Cys Lys Arg Lys Asn Pro	
305 310 315 320	
ttc ctt cta tga	972
Phe Leu Leu	

&lt;210&gt; 488

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 488

Met Met Gly Gln Asn Gln Thr Ser Ile Ser Asp Phe Leu Leu Leu Gly  
 1 5 10 15

Leu Pro Ile Gln Pro Glu Gln Gln Asn Leu Cys Tyr Ala Leu Phe Leu  
 20 25 30

Ala Met Tyr Leu Thr Thr Leu Leu Gly Asn Leu Leu Ile Ile Val Leu  
 35 40 45

Ile Arg Leu Asp Ser His Leu His Thr Pro Val Tyr Leu Phe Leu Ser  
 50 55 60

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys  
 65 70 75 80

Leu Leu Gln Asn Met Gln Asn Gln Asp Pro Ser Ile Pro Tyr Ala Asp  
 85 90 95

Cys Leu Thr Gln Met Tyr Phe Phe Leu Tyr Phe Ser Asp Leu Glu Ser  
 100 105 110

Phe Leu Leu Val Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Phe  
 115 120 125

Pro Met His Tyr Thr Ala Ile Cys Phe Leu Leu His Tyr Thr Ala Ile  
 130 135 140

Met Ser Pro Met Leu Cys Leu Ser Val Val Ala Leu Ser Trp Val Leu  
 145 150 155 160

Thr Thr Phe His Ala Met Leu His Thr Leu Leu Met Ala Arg Leu Cys  
 165 170 175

Phe Cys Ala Asp Asn Val Ile Pro His Phe Phe Cys Asp Met Ser Ala  
 180 185 190

Leu Leu Lys Leu Ala Cys Ser Asp Thr Arg Val Asn Glu Trp Val Ile  
 195 200 205

Phe Ile Met Gly Gly Leu Ile Leu Val Ile Pro Phe Leu Leu Ile Leu  
 210 215 220

Gly Ser Tyr Ala Arg Ile Val Ser Ser Ile Leu Lys Val Pro Ser Ser  
225 230 235 240

Lys Gly Ile Cys Lys Ala Phe Ser Thr Cys Gly Ser His Leu Ser Val  
245 250 255

Val Ser Leu Phe Tyr Gly Thr Val Ile Gly Leu Tyr Leu Cys Pro Ser  
260 265 270

Ala Asn Ser Ser Thr Leu Lys Asp Thr Val Met Ala Met Met Tyr Thr  
275 280 285

Val Val Thr Pro Met Leu Thr Pro Phe Ile Tyr Ser Leu Arg Asn Arg  
290 295 300

Asp Met Lys Gly Ala Leu Glu Arg Val Ile Cys Lys Arg Lys Asn Pro  
305 310 315 320

Phe Leu Leu

<210> 489  
<211> 954  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1) .. (951)  
<223>

<400> 489atg gaa gga aag aat caa aca gct cca tct gaa ttc atc atc ttg ggg  
48

Met Glu Gly Lys Asn Gln Thr Ala Pro Ser Glu Phe Ile Ile Leu Gly  
1 5 10 15

ttc gac cac ctg aat gaa ttg cag tat tta ctc ttc acc atc ttc ttt 96  
Phe Asp His Leu Asn Glu Leu Gln Tyr Leu Leu Phe Thr Ile Phe Phe  
20 25 30

ctg acc tac ata tgc act tta gga ggc aat gtt ttt atc att gtg gtg 144  
Leu Thr Tyr Ile Cys Thr Leu Gly Gly Asn Val Phe Ile Ile Val Val  
35 40 45

acc ata gct gat tcc cac cta cac aca ccc atg tat tat ttc cta gga 192  
Thr Ile Ala Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Gly  
50 55 60

aat ctt gcc ctt att gac atc tgc tac act act act aat gtc ccc cag 240  
Asn Leu Ala Leu Ile Asp Ile Cys Tyr Thr Thr Thr Asn Val Pro Gln  
65 70 75 80

atg atg gtg cat ctt ctg tca gag aag aaa atc att tcc tat gga ggc	288
Met Met Val His Leu Leu Ser Glu Lys Lys Ile Ile Ser Tyr Gly Gly	
85 90 95	
tgt gtg acc cag ctc ttt gca ttc att ttc ttt gtt ggc tca gag tgt	336
Cys Val Thr Gln Leu Phe Ala Phe Ile Phe Phe Val Gly Ser Glu Cys	
100 105 110	
ctc ctc ctg gca gca atg gca tat gat cga tat att gct atc tgt aag	384
Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Lys	
115 120 125	
ccg tta agg tac tca ttt att atg aac aag gcc ctg tgc agc tgg tta	432
Pro Leu Arg Tyr Ser Phe Ile Met Asn Lys Ala Leu Cys Ser Trp Leu	
130 135 140	
gca gcc tca tgc tgg aca tgt ggg ttt ctc aac tca gtg ttg cac acc	480
Ala Ala Ser Cys Trp Thr Cys Gly Phe Leu Asn Ser Val Leu His Thr	
145 150 155 160	
gtt ctg acc ttc cac ctg ccc ttc tgt ggt aac aat cag atc aat tat	528
Val Leu Thr Phe His Leu Pro Phe Cys Gly Asn Asn Gln Ile Asn Tyr	
165 170 175	
ttc ttc tgt gac ata cct ccc ttg ctc atc ttg tct tgt ggt gat act	576
Phe Phe Cys Asp Ile Pro Pro Leu Leu Ile Leu Ser Cys Gly Asp Thr	
180 185 190	
tcc ctc aat gaa ctg gct ttg ctg tcc att ggg atc ctc ata agc tgg	624
Ser Leu Asn Glu Leu Ala Leu Leu Ser Ile Gly Ile Leu Ile Ser Trp	
195 200 205	
act cct ttc ctg tgc atc atc ctt tcc tac ctt tac atc atc tcc acc	672
Thr Pro Phe Leu Cys Ile Ile Leu Ser Tyr Leu Tyr Ile Ile Ser Thr	
210 215 220	
atc ctg agg atc cgt tcc tct gag ggg agg cac aaa gcc ttt tcc acc	720
Ile Leu Arg Ile Arg Ser Ser Glu Gly Arg His Lys Ala Phe Ser Thr	
225 230 235 240	
tgt gcc tcc cac ctg ctc att gtt att ctc tat tat ggc agt gct atc	768
Cys Ala Ser His Leu Leu Ile Val Ile Leu Tyr Tyr Gly Ser Ala Ile	
245 250 255	
ttc acg tat gtg agg ccc atc tca tct tac tct cta gag aaa gat aga	816
Phe Thr Tyr Val Arg Pro Ile Ser Ser Tyr Ser Leu Glu Lys Asp Arg	
260 265 270	
ttg atc tca gtg ctg tat agt gtt gtc aca ccc atg ctg aat cct gta	864
Leu Ile Ser Val Leu Tyr Ser Val Val Thr Pro Met Leu Asn Pro Val	
275 280 285	
att tat acg cta agg aat aag gac atc aaa gag gct gtg aag gcc ata	912
Ile Tyr Thr Leu Arg Asn Lys Asp Ile Lys Glu Ala Val Lys Ala Ile	
290 295 300	
ggg aga aag tgg cag cca cca gtt ttc tct tct gat ata taa	954
Gly Arg Lys Trp Gln Pro Pro Val Phe Ser Ser Asp Ile	
305 310 315	



<210> 490  
 <211> 317  
 <212> PRT  
 <213> Homo Sapiens

<400> 490

Met Glu Gly Lys Asn Gln Thr Ala Pro Ser Glu Phe Ile Ile Leu Gly  
 1 5 10 15

Phe Asp His Leu Asn Glu Leu Gln Tyr Leu Leu Phe Thr Ile Phe Phe  
 20 25 30

Leu Thr Tyr Ile Cys Thr Leu Gly Gly Asn Val Phe Ile Ile Val Val  
 35 40 45

Thr Ile Ala Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Gly  
 50 55 60

Asn Leu Ala Leu Ile Asp Ile Cys Tyr Thr Thr Thr Asn Val Pro Gln  
 65 70 75 80

Met Met Val His Leu Leu Ser Glu Lys Lys Ile Ile Ser Tyr Gly Gly  
 85 90 95

Cys Val Thr Gln Leu Phe Ala Phe Ile Phe Phe Val Gly Ser Glu Cys  
 100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Lys  
 115 120 125

Pro Leu Arg Tyr Ser Phe Ile Met Asn Lys Ala Leu Cys Ser Trp Leu  
 130 135 140

Ala Ala Ser Cys Trp Thr Cys Gly Phe Leu Asn Ser Val Leu His Thr  
 145 150 155 160

Val Leu Thr Phe His Leu Pro Phe Cys Gly Asn Asn Gln Ile Asn Tyr  
 165 170 175

Phe Phe Cys Asp Ile Pro Pro Leu Leu Ile Leu Ser Cys Gly Asp Thr  
 180 185 190

Ser Leu Asn Glu Leu Ala Leu Leu Ser Ile Gly Ile Leu Ile Ser Trp  
 195 200 205

Thr Pro Phe Leu Cys Ile Ile Leu Ser Tyr Leu Tyr Ile Ile Ser Thr  
 210 215 220

Ile Leu Arg Ile Arg Ser Ser Glu Gly Arg His Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ala Ser His Leu Leu Ile Val Ile Leu Tyr Tyr Gly Ser Ala Ile  
245 250 255

Phe Thr Tyr Val Arg Pro Ile Ser Ser Tyr Ser Leu Glu Lys Asp Arg  
260 265 270

Leu Ile Ser Val Leu Tyr Ser Val Val Thr Pro Met Leu Asn Pro Val  
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Ile Lys Glu Ala Val Lys Ala Ile  
290 295 300

Gly Arg Lys Trp Gln Pro Pro Val Phe Ser Ser Asp Ile  
305 310 315

<210> 491  
<211> 975  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(975)  
<223>

<400> 491atg gct gaa gtt aat atc att tat gtc act gta ttc att ctg aaa gga  
48

Met Ala Glu Val Asn Ile Ile Tyr Val Thr Val Phe Ile Leu Lys Gly  
1 5 10 15

att acc aac cgg cca gag ctt cag gcc ccg tgc ttt ggg gtg ttt tta 96  
Ile Thr Asn Arg Pro Glu Leu Gln Ala Pro Cys Phe Gly Val Phe Leu  
20 25 30

gtt atc tat ctg gtc aca gtg ctg ggc aat ctt ggg ttg att act tta 144  
Val Ile Tyr Leu Val Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu  
35 40 45

atc aag att gat act cga ctc cac aca cct atg tac tat ttc ctc agc 192  
Ile Lys Ile Asp Thr Arg Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
50 55 60

cac ctg gcc ttt gtt gac ctt tgt tac tcc tct gct att aca ccg aag 240  
His Leu Ala Phe Val Asp Leu Cys Tyr Ser Ser Ala Ile Thr Pro Lys  
65 70 75 80

atg atg gtg aat ttt gtt gtg gaa cgc aac acc att cct ttc cat gct 288  
Met Met Val Asn Phe Val Val Glu Arg Asn Thr Ile Pro Phe His Ala  
85 90 95

tgt gca acc caa ctg ggt tgt ttt ctc acc ttc atg atc act gag tgt	336
Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe Met Ile Thr Glu Cys	
100 105 110	
ttc ctt cta gcc tcc atg gcc tac gat tgc tat gtc gcc atc tgt agt	384
Phe Leu Leu Ala Ser Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser	
115 120 125	
ccc ctg cat tat tca aca ctg atg tca aga aga gtc tgc att caa ctg	432
Pro Leu His Tyr Ser Thr Leu Met Ser Arg Arg Val Cys Ile Gln Leu	
130 135 140	
gtg gca gtt cca tat ata tac agc ttc ctg gtt gcc ctc ttc cac acc	480
Val Ala Val Pro Tyr Ile Tyr Ser Phe Leu Val Ala Leu Phe His Thr	
145 150 155 160	
gtt atc act ttc cgt ctg act tac tgt ggc cca aac tta att aac cat	528
Val Ile Thr Phe Arg Leu Thr Tyr Cys Gly Pro Asn Leu Ile Asn His	
165 170 175	
ttc tat tgt gat gac ctc ccc ttc tta gct ctg tcc tgc tca gac aca	576
Phe Tyr Cys Asp Asp Leu Pro Phe Leu Ala Leu Ser Cys Ser Asp Thr	
180 185 190	
cac atg aag gaa att ctg ata ttt gcc ttt gct ggc ttt gat atg atc	624
His Met Lys Glu Ile Leu Ile Phe Ala Phe Ala Gly Phe Asp Met Ile	
195 200 205	
tct tcc tct tcc att gtc ctc acc tcc tac atc ttt att att gcc gct	672
Ser Ser Ser Ser Ile Val Leu Thr Ser Tyr Ile Phe Ile Ile Ala Ala	
210 215 220	
atc cta agg atc cgc tct act cag ggg caa cac aaa gcc att tcc acc	720
Ile Leu Arg Ile Arg Ser Thr Gln Gly Gln His Lys Ala Ile Ser Thr	
225 230 235 240	
tgt ggc tcc cat atg gtg act gtc act att ttc tat ggc aca ctg atc	768
Cys Gly Ser His Met Val Thr Val Thr Ile Phe Tyr Gly Thr Leu Ile	
245 250 255	
ttt atg tac cta cag ccc aaa tca aat cac tcc ttg gac aca gac aag	816
Phe Met Tyr Leu Gln Pro Lys Ser Asn His Ser Leu Asp Thr Asp Lys	
260 265 270	
atg gct tct gta ttt tac aca gtg gtg atc ccc atg tta aac ccc cta	864
Met Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu	
275 280 285	
atc tat agt cta agg aac aaa gaa gtg aaa gat gcc tca aag aaa gcc	912
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Ser Lys Lys Ala	
290 295 300	
ttg gat aaa ggt tgt gaa aac tta cag ata tta aca ttt tta aaa ata	960
Leu Asp Lys Gly Cys Glu Asn Leu Gln Ile Leu Thr Phe Leu Lys Ile	
305 310 315 320	
aga aaa ctt tat taa	975
Arg Lys Leu Tyr	

<210> 492  
 <211> 324  
 <212> PRT  
 <213> Homo Sapiens

<400> 492

Met Ala Glu Val Asn Ile Ile Tyr Val Thr Val Phe Ile Leu Lys Gly  
 1 5 10 15

Ile Thr Asn Arg Pro Glu Leu Gln Ala Pro Cys Phe Gly Val Phe Leu  
 20 25 30

Val Ile Tyr Leu Val Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu  
 35 40 45

Ile Lys Ile Asp Thr Arg Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
 50 55 60

His Leu Ala Phe Val Asp Leu Cys Tyr Ser Ser Ala Ile Thr Pro Lys  
 65 70 75 80

Met Met Val Asn Phe Val Val Glu Arg Asn Thr Ile Pro Phe His Ala  
 85 90 95

Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe Met Ile Thr Glu Cys  
 100 105 110

Phe Leu Leu Ala Ser Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Ser Thr Leu Met Ser Arg Arg Val Cys Ile Gln Leu  
 130 135 140

Val Ala Val Pro Tyr Ile Tyr Ser Phe Leu Val Ala Leu Phe His Thr  
 145 150 155 160

Val Ile Thr Phe Arg Leu Thr Tyr Cys Gly Pro Asn Leu Ile Asn His  
 165 170 175

Phe Tyr Cys Asp Asp Leu Pro Phe Leu Ala Leu Ser Cys Ser Asp Thr  
 180 185 190

His Met Lys Glu Ile Leu Ile Phe Ala Phe Ala Gly Phe Asp Met Ile  
 195 200 205

Ser Ser Ser Ser Ile Val Leu Thr Ser Tyr Ile Phe Ile Ile Ala Ala  
 210 215 220

Ile Leu Arg Ile Arg Ser Thr Gln Gly Gln His Lys Ala Ile Ser Thr  
 225 230 235 240

Cys Gly Ser His Met Val Thr Val Thr Ile Phe Tyr Gly Thr Leu Ile  
 245 250 255

Phe Met Tyr Leu Gln Pro Lys Ser Asn His Ser Leu Asp Thr Asp Lys  
 260 265 270

Met Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Ser Lys Lys Ala  
 290 295 300

Leu Asp Lys Gly Cys Glu Asn Leu Gln Ile Leu Thr Phe Leu Lys Ile  
 305 310 315 320

Arg Lys Leu Tyr

<210> 493  
 <211> 945  
 <212> DNA  
 <213> Homo Sapiens

<220>  
 <221> CDS  
 <222> (1)..(942)  
 <223>

<400> 493atg gcc aga aaa gat atg gct cac atc aat tgc acc cag gcg aca gag  
 48

Met Ala Arg Lys Asp Met Ala His Ile Asn Cys Thr Gln Ala Thr Glu  
 1 5 10 15

ttt att ctt gtg ggc ctc aca gac cat cag gag ttg aag atg ccc ctc 96  
 Phe Ile Leu Val Gly Leu Thr Asp His Gln Glu Leu Lys Met Pro Leu  
 20 25 30

ttt gtg cta ttc tta tcc atc tac ctc ttc aca gtg gta ggc aac ttg 144  
 Phe Val Leu Phe Leu Ser Ile Tyr Leu Phe Thr Val Val Gly Asn Leu  
 35 40 45

ggg ttg atc cta ctc att aga gcg gat aca agt ctc aac aca cca atg 192  
 Gly Leu Ile Leu Leu Ile Arg Ala Asp Thr Ser Leu Asn Thr Pro Met  
 50 55 60

tac ttc ttt ctt agc aac cta gct ttt gtg gat ttc tgt tac tct tct 240  
 Tyr Phe Phe Leu Ser Asn Leu Ala Phe Val Asp Phe Cys Tyr Ser Ser  
 65 70 75 80

gtc att aca ccc aaa atg ctt ggg aat ttc ttg tac aaa caa aat gtt	288
Val Ile Thr Pro Lys Met Leu Gly Asn Phe Leu Tyr Lys Gln Asn Val	
85 90 95	
ata tcc ttt gat gca tgt gct act caa ctg ggc tgc ttt ctc acc ttc	336
Ile Ser Phe Asp Ala Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe	
100 105 110	
atg ata tca gaa tcc ttg cta ctg gct tcc atg gcc tat gac cga tat	384
Met Ile Ser Glu Ser Leu Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr	
115 120 125	
gtg gcc att tgt aac cct cta ttg tat atg gtt gta atg act cca gga	432
Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Val Met Thr Pro Gly	
130 135 140	
atc tgc att caa ctt gta gca gtt cct tat agc tat agc ttc cta atg	480
Ile Cys Ile Gln Leu Val Ala Val Pro Tyr Ser Tyr Ser Phe Leu Met	
145 150 155 160	
gca cta ttt cac acc atc ctc acc ttc cgc ctc tcc tat tgc cac tcc	528
Ala Leu Phe His Thr Ile Leu Thr Phe Arg Leu Ser Tyr Cys His Ser	
165 170 175	
aac att gtc aac cat ttc tat tgt gat gac atg cct ctc ctc agg cta	576
Asn Ile Val Asn His Phe Tyr Cys Asp Asp Met Pro Leu Leu Arg Leu	
180 185 190	
act tgc tca gac act cgc ttc aaa cag ctc tgg atc ttt gcc tgt gct	624
Thr Cys Ser Asp Thr Arg Phe Lys Gln Leu Trp Ile Phe Ala Cys Ala	
195 200 205	
ggg atc atg ttc att tcc tcc ctt ctg att gtc ttt gtc tcc tac atg	672
Gly Ile Met Phe Ile Ser Ser Leu Leu Ile Val Phe Val Ser Tyr Met	
210 215 220	
ttc atc att tct gcc atc ctg agg atg cat tca gct gag gga aga cag	720
Phe Ile Ile Ser Ala Ile Leu Arg Met His Ser Ala Glu Gly Arg Gln	
225 230 235 240	
aag gct ttc tcg acg tgt ggc tct cac atg ctg gca gtc acc ata ttc	768
Lys Ala Phe Ser Thr Cys Gly Ser His Met Leu Ala Val Thr Ile Phe	
245 250 255	
tat ggg acc ctc att ttt atg tac tta cag cct agc tct agc cat gcc	816
Tyr Gly Thr Leu Ile Phe Met Tyr Leu Gln Pro Ser Ser Ser His Ala	
260 265 270	
ctg gac aca gac aag atg gcc tct gtc ttc tac aca gtg atc att ccc	864
Leu Asp Thr Asp Lys Met Ala Ser Val Phe Tyr Thr Val Ile Ile Pro	
275 280 285	
atg ttg aat ccc tta atc tat agc ctc cag aat aag gag gtg aaa gaa	912
Met Leu Asn Pro Leu Ile Tyr Ser Leu Gln Asn Lys Glu Val Lys Glu	
290 295 300	
gct ctg aag aaa atc att atc aat aaa aac tag	945
Ala Leu Lys Lys Ile Ile Ile Asn Lys Asn	
305 310	

<210> 494  
 <211> 314  
 <212> PRT  
 <213> Homo Sapiens

<400> 494

Met Ala Arg Lys Asp Met Ala His Ile Asn Cys Thr Gln Ala Thr Glu  
 1 5 10 15

Phe Ile Leu Val Gly Leu Thr Asp His Gln Glu Leu Lys Met Pro Leu  
 20 25 30

Phe Val Leu Phe Leu Ser Ile Tyr Leu Phe Thr Val Val Gly Asn Leu  
 35 40 45

Gly Leu Ile Leu Leu Ile Arg Ala Asp Thr Ser Leu Asn Thr Pro Met  
 50 55 60

Tyr Phe Phe Leu Ser Asn Leu Ala Phe Val Asp Phe Cys Tyr Ser Ser  
 65 70 75 80

Val Ile Thr Pro Lys Met Leu Gly Asn Phe Leu Tyr Lys Gln Asn Val  
 85 90 95

Ile Ser Phe Asp Ala Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe  
 100 105 110

Met Ile Ser Glu Ser Leu Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr  
 115 120 125

Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Val Met Thr Pro Gly  
 130 135 140

Ile Cys Ile Gln Leu Val Ala Val Pro Tyr Ser Tyr Ser Phe Leu Met  
 145 150 155 160

Ala Leu Phe His Thr Ile Leu Thr Phe Arg Leu Ser Tyr Cys His Ser  
 165 170 175

Asn Ile Val Asn His Phe Tyr Cys Asp Asp Met Pro Leu Leu Arg Leu  
 180 185 190

Thr Cys Ser Asp Thr Arg Phe Lys Gln Leu Trp Ile Phe Ala Cys Ala  
 195 200 205

Gly Ile Met Phe Ile Ser Ser Leu Leu Ile Val Phe Val Ser Tyr Met  
 210 215 220

Phe Ile Ile Ser Ala Ile Leu Arg Met His Ser Ala Glu Gly Arg Gln  
225 230 235 240

Lys Ala Phe Ser Thr Cys Gly Ser His Met Leu Ala Val Thr Ile Phe  
245 250 255

Tyr Gly Thr Leu Ile Phe Met Tyr Leu Gln Pro Ser Ser Ser His Ala  
260 265 270

Leu Asp Thr Asp Lys Met Ala Ser Val Phe Tyr Thr Val Ile Ile Pro  
275 280 285

Met Leu Asn Pro Leu Ile Tyr Ser Leu Gln Asn Lys Glu Val Lys Glu  
290 295 300

Ala Leu Lys Lys Ile Ile Ile Asn Lys Asn  
305 310

<210> 495  
<211> 945  
<212> DNA  
<213> Homo Sapiens

<220>  
<221> CDS  
<222> (1)..(942)  
<223>

<400> 495atg gag aac aac aca gag gtg act gaa ttc atc ctt gtg ggg tta act

48

Met Glu Asn Asn Thr Glu Val Thr Glu Phe Ile Leu Val Gly Leu Thr  
1 5 10 15

gat gac cca gaa ctg cag atc cca ctc ttc ata gtc ttc ctt ttc atc 96  
Asp Asp Pro Glu Leu Gln Ile Pro Leu Phe Ile Val Phe Leu Phe Ile  
20 25 30

tac ctc atc act ctg gtt ggg aac ctg ggg atg att gaa ttg att cta 144  
Tyr Leu Ile Thr Leu Val Gly Asn Leu Gly Met Ile Glu Leu Ile Leu  
35 40 45

ctg gac tcc tgt ctc cac acc ccc atg tac ttc ttc ctc agt aac ctc 192  
Leu Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
50 55 60

tcc ctg gtg gac ttt ggt tat tcc tca gct gtc act ccc aag gtg atg 240  
Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met  
65 70 75 80

gtg ggg ttt ctc aca gga gac aaa ttc ata tta tat aat gct tgt gcc 288  
Val Gly Phe Leu Thr Gly Asp Lys Phe Ile Leu Tyr Asn Ala Cys Ala  
85 90 95



aca caa ttc ttc ttc ttt gta gcc ttt atc act gca gaa agt ttc ctc	336
Thr Gln Phe Phe Phe Phe Val Ala Phe Ile Thr Ala Glu Ser Phe Leu	
100 105 110	
ctg gca tca atg gcc tat gac cgc tat gca gca ttg tgt aaa ccc ctg	384
Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Leu Cys Lys Pro Leu	
115 120 125	
cat tac acc acc acc atg aca aca aat gta tgt gct tgc ctg gcc ata	432
His Tyr Thr Thr Thr Met Thr Thr Asn Val Cys Ala Cys Leu Ala Ile	
130 135 140	
ggc tcc tac atc tgt ggt ttc ctg aat gca tcc att cat act ggg aac	480
Gly Ser Tyr Ile Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asn	
145 150 155 160	
act ttc agg ctc tcc ttc tgt aga tcc aat gta gtt gaa cac ttt ttc	528
Thr Phe Arg Leu Ser Phe Cys Arg Ser Asn Val Val Glu His Phe Phe	
165 170 175	
tgt gat gct cct cct ctc ttg act ctc tca tgt tca gac aac tac atc	576
Cys Asp Ala Pro Pro Leu Leu Thr Leu Ser Cys Ser Asp Asn Tyr Ile	
180 185 190	
agt gag atg gtt att ttt ttt gtg gtg gga ttc aat gac ctc ttt tct	624
Ser Glu Met Val Ile Phe Phe Val Val Gly Phe Asn Asp Leu Phe Ser	
195 200 205	
atc ctg gta atc ttg atc tcc tac tta ttt ata ttt atc acc atc atg	672
Ile Leu Val Ile Leu Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Met	
210 215 220	
aag atg cgc tca cct gaa gga cgc cag aag gcc ttt tct act tgt gct	720
Lys Met Arg Ser Pro Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala	
225 230 235 240	
tcc cac ctt act gca gtt tcc atc ttt tat ggg aca gga atc ttt atg	768
Ser His Leu Thr Ala Val Ser Ile Phe Tyr Gly Thr Gly Ile Phe Met	
245 250 255	
tac tta cga cct aac tcc agc cat ttc atg ggc aca gac aaa atg gca	816
Tyr Leu Arg Pro Asn Ser Ser His Phe Met Gly Thr Asp Lys Met Ala	
260 265 270	
tct gtg ttc tat gcc ata gtc att ccc atg ttg aat cca ctg gtc tac	864
Ser Val Phe Tyr Ala Ile Val Ile Pro Met Leu Asn Pro Leu Val Tyr	
275 280 285	
agc ctg agg aac aaa gag gtt aag agt gcc ttt aaa aag act gta ggg	912
Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Thr Val Gly	
290 295 300	
aag gca aag gcc tct ata gga ttc ata ttt taa	945
Lys Ala Lys Ala Ser Ile Gly Phe Ile Phe	
305 310	
<210> 496	
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&lt;213&gt; Homo Sapiens

&lt;400&gt; 496

Met Glu Asn Asn Thr Glu Val Thr Glu Phe Ile Leu Val Gly Leu Thr  
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Asp Asp Pro Glu Leu Gln Ile Pro Leu Phe Ile Val Phe Leu Phe Ile  
 20 25 30

Tyr Leu Ile Thr Leu Val Gly Asn Leu Gly Met Ile Glu Leu Ile Leu  
 35 40 45

Leu Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
 50 55 60

Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met  
 65 70 75 80

Val Gly Phe Leu Thr Gly Asp Lys Phe Ile Leu Tyr Asn Ala Cys Ala  
 85 90 95

Thr Gln Phe Phe Phe Phe Val Ala Phe Ile Thr Ala Glu Ser Phe Leu  
 100 105 110

Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Leu Cys Lys Pro Leu  
 115 120 125

His Tyr Thr Thr Thr Met Thr Thr Asn Val Cys Ala Cys Leu Ala Ile  
 130 135 140

Gly Ser Tyr Ile Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asn  
 145 150 155 160

Thr Phe Arg Leu Ser Phe Cys Arg Ser Asn Val Val Glu His Phe Phe  
 165 170 175

Cys Asp Ala Pro Pro Leu Leu Thr Leu Ser Cys Ser Asp Asn Tyr Ile  
 180 185 190

Ser Glu Met Val Ile Phe Phe Val Val Gly Phe Asn Asp Leu Phe Ser  
 195 200 205

Ile Leu Val Ile Leu Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Met  
 210 215 220

Lys Met Arg Ser Pro Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Ala  
 225 230 235 240

Ser His Leu Thr Ala Val Ser Ile Phe Tyr Gly Thr Gly Ile Phe Met  
245 250 255

Tyr Leu Arg Pro Asn Ser Ser His Phe Met Gly Thr Asp Lys Met Ala  
260 265 270

Ser Val Phe Tyr Ala Ile Val Ile Pro Met Leu Asn Pro Leu Val Tyr  
275 280 285

Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Thr Val Gly  
290 295 300

Lys Ala Lys Ala Ser Ile Gly Phe Ile Phe  
305 310

<210> 497  
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48

Met Glu Asn Cys Thr Glu Val Thr Lys Phe Ile Leu Leu Gly Leu Thr  
1 5 10 15

agt gtc cca gaa cta cag atc ccc ctc ttt atc ttg ttc acc ttc atc 96  
Ser Val Pro Glu Leu Gln Ile Pro Leu Phe Ile Leu Phe Thr Phe Ile  
20 25 30

tac ctc ctc act ctg tgt ggg aac ctg ggg atg atg ttg ctg atc ctg 144  
Tyr Leu Leu Thr Leu Cys Gly Asn Leu Gly Met Met Leu Leu Ile Leu  
35 40 45

atg gac tct tgt ctc cac acc ccc atg tac ttt ttc ctc agt aac ctg 192  
Met Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu  
50 55 60

tct ctg gtg gac ttt gga tac tcc tca gct gtc act ccc aag gtc atg 240  
Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met  
65 70 75 80

gct ggg ttc ctt aga gga gac aag gtc atc tcc tac aat gca tgt gct 288  
Ala Gly Phe Leu Arg Gly Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala  
85 90 95

gtt cag atg ttc ttc ttt gta gcc ttg gcc acg gtg gaa aat tac ttg 336  
Val Gln Met Phe Phe Phe Val Ala Leu Ala Thr Val Glu Asn Tyr Leu  
100 105 110

ttg gcc tca atg gcc tat gac cgc tat gca gca gtg tgc aaa ccc cta 384  
 Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu  
 115 120 125

cac tac acc acc acc atg acg gcc agt gta ggt gcc tgt ctg gcc cta 432  
 His Tyr Thr Thr Thr Met Thr Ala Ser Val Gly Ala Cys Leu Ala Leu  
 130 135 140

ggc tca tat gtc tgt ggc ttc cta aat gcc tca ttc cac att ggg ggc 480  
 Gly Ser Tyr Val Cys Gly Phe Leu Asn Ala Ser Phe His Ile Gly Gly  
 145 150 155 160

ata ttc agt ctc tct ttc tgt aaa tcc aat ctg gta cat cac ttt ttc 528  
 Ile Phe Ser Leu Ser Phe Cys Lys Ser Asn Leu Val His His Phe Phe  
 165 170 175

tgt gat gtt cca gca gtc atg gct ctg tct tgc tct gat aaa cac act 576  
 Cys Asp Val Pro Ala Val Met Ala Leu Ser Cys Ser Asp Lys His Thr  
 180 185 190

agt gag gtg att ctg gtt ttt atg tca agc ttt aat atc ttt ttt gtt 624  
 Ser Glu Val Ile Leu Val Phe Met Ser Ser Phe Asn Ile Phe Phe Val  
 195 200 205

ctt cta gtt atc ttt atc tcc tac ttg ttc ata ttc atc acc atc ttg 672  
 Leu Leu Val Ile Phe Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Leu  
 210 215 220

aag atg cat tca gct aag gga cac caa aaa gca ttg tcc acc tgt gcc 720  
 Lys Met His Ser Ala Lys Gly His Gln Lys Ala Leu Ser Thr Cys Ala  
 225 230 235 240

tct cac ttc act gca gtc tcc gtc ttc tat ggg aca gta atc ttc atc 768  
 Ser His Phe Thr Ala Val Ser Val Phe Tyr Gly Thr Val Ile Phe Ile  
 245 250 255

tac ttg cag ccc agc tcc agc cac tcc atg gac aca gac aaa atg gca 816  
 Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala  
 260 265 270

tct gtg ttc tat gct atg atc atc ccc atg ctg aac cct gtg gtc tac 864  
 Ser Val Phe Tyr Ala Met Ile Ile Pro Met Leu Asn Pro Val Val Tyr  
 275 280 285

agc ctg agg aac aga gaa gtc cag aat gca ttc aag aaa gtg ttg aga 912  
 Ser Leu Arg Asn Arg Glu Val Gln Asn Ala Phe Lys Lys Val Leu Arg  
 290 295 300

agg caa aaa ttt cta taa 930  
 Arg Gln Lys Phe Leu  
 305

&lt;210&gt; 498

&lt;211&gt; 309

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 498

Met Glu Asn Cys Thr Glu Val Thr Lys Phe Ile Leu Leu Gly Leu Thr

1	5	10	15
Ser Val Pro Glu Leu Gln Ile Pro Leu Phe Ile Leu Phe Thr Phe Ile	20	25	30
Tyr Leu Leu Thr Leu Cys Gly Asn Leu Gly Met Met Leu Leu Ile Leu	35	40	45
Met Asp Ser Cys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Asn Leu	50	55	60
Ser Leu Val Asp Phe Gly Tyr Ser Ser Ala Val Thr Pro Lys Val Met	65	70	75
Ala Gly Phe Leu Arg Gly Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala	85	90	95
Val Gln Met Phe Phe Phe Val Ala Leu Ala Thr Val Glu Asn Tyr Leu	100	105	110
Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu	115	120	125
His Tyr Thr Thr Thr Met Thr Ala Ser Val Gly Ala Cys Leu Ala Leu	130	135	140
Gly Ser Tyr Val Cys Gly Phe Leu Asn Ala Ser Phe His Ile Gly Gly	145	150	155
Ile Phe Ser Leu Ser Phe Cys Lys Ser Asn Leu Val His His Phe Phe	165	170	175
Cys Asp Val Pro Ala Val Met Ala Leu Ser Cys Ser Asp Lys His Thr	180	185	190
Ser Glu Val Ile Leu Val Phe Met Ser Ser Phe Asn Ile Phe Phe Val	195	200	205
Leu Leu Val Ile Phe Ile Ser Tyr Leu Phe Ile Phe Ile Thr Ile Leu	210	215	220
Lys Met His Ser Ala Lys Gly His Gln Lys Ala Leu Ser Thr Cys Ala	225	230	235
Ser His Phe Thr Ala Val Ser Val Phe Tyr Gly Thr Val Ile Phe Ile	245	250	255

Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala  
 260 265 270

Ser Val Phe Tyr Ala Met Ile Ile Pro Met Leu Asn Pro Val Val Tyr  
 275 280 285

Ser Leu Arg Asn Arg Glu Val Gln Asn Ala Phe Lys Lys Val Leu Arg  
 290 295 300

Arg Gln Lys Phe Leu  
 305

<210> 499  
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<220>  
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 1 5 10 15

aat gac tca gaa ctg cag gtt ccc ctc ttt ata acg ttc ccc ttc atc 96  
 Asn Asp Ser Glu Leu Gln Val Pro Leu Phe Ile Thr Phe Pro Phe Ile  
 20 25 30

tat att atc act ctg gtt gga aac ctg gga att att gta ttg ata ttc 144  
 Tyr Ile Ile Thr Leu Val Gly Asn Leu Gly Ile Ile Val Leu Ile Phe  
 35 40 45

tgg gat tcc tgt ctc cac aat ccc atg tac ttt ttt ctc agt aac ttg 192  
 Trp Asp Ser Cys Leu His Asn Pro Met Tyr Phe Phe Leu Ser Asn Leu  
 50 55 60

tct cta gtg gac ttt tgc tac tct tca gct gtc act ccc atc gtc atg 240  
 Ser Leu Val Asp Phe Cys Tyr Ser Ser Ala Val Thr Pro Ile Val Met  
 65 70 75 80

gct gga ttc ctt ata gaa gac aag gtc atc tct tac aat gca tgt gct 288  
 Ala Gly Phe Leu Ile Glu Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala  
 85 90 95

gct caa atg tat atc ttt gta gct ttt gcc act gtg gaa aat tac ctc 336  
 Ala Gln Met Tyr Ile Phe Val Ala Phe Ala Thr Val Glu Asn Tyr Leu  
 100 105 110

ttg gcc tca atg gcc tat gac cgc tat gca gca gtg tgc aaa ccc cta 384  
 Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu  
 115 120 125

cat tac acc aca acc atg aca aca act gtg tgt gct cgt ctg gcc ata 432  
 His Tyr Thr Thr Thr Met Thr Thr Thr Val Cys Ala Arg Leu Ala Ile  
 130 135 140

ggc tcc tac ctc tgt ggt ttc ctg aat gcc tcc atc cac act ggg gac 480  
 Gly Ser Tyr Leu Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asp  
 145 150 155 160

aca ttt agt ctc tct ttc tgt aag tcc aat gaa gtc cat cac ttt ttc 528  
 Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Glu Val His His Phe Phe  
 165 170 175

tgt gat att cca gca gtc atg gtt ctc tct tgc tct gat aga cat att 576  
 Cys Asp Ile Pro Ala Val Met Val Leu Ser Cys Ser Asp Arg His Ile  
 180 185 190

agc gag ctt gtt ctt att tat gtt gtg agc ttc aat atc ttt ata gct 624  
 Ser Glu Leu Val Leu Ile Tyr Val Val Ser Phe Asn Ile Phe Ile Ala  
 195 200 205

ctc ctg gtt atc ttg ata tcc tac aca ttc att ttt atc acc atc cta 672  
 Leu Leu Val Ile Leu Ile Ser Tyr Thr Phe Ile Phe Ile Thr Ile Leu  
 210 215 220

aag atg cac tca gct tca gta tac cag aag cct ttg tcc acc tgt gcc 720  
 Lys Met His Ser Ala Ser Val Tyr Gln Lys Pro Leu Ser Thr Cys Ala  
 225 230 235 240

tct cat ttc att gca gtc ggc atc ttc tat ggg act att atc ttc atg 768  
 Ser His Phe Ile Ala Val Gly Ile Phe Tyr Gly Thr Ile Ile Phe Met  
 245 250 255

tac tta caa ccc agc tcc agt cac tcc atg gac aca gac aaa atg gca 816  
 Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala  
 260 265 270

cct gtg ttc tat aca atg gtc atc ccc atg ctg aac cct ctg gtc tat 864  
 Pro Val Phe Tyr Thr Met Val Ile Pro Met Leu Asn Pro Leu Val Tyr  
 275 280 285

agt ctg agg aac aag gaa gtg aag agt gca ttc aag aaa gtt gtt gag 912  
 Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Val Val Glu  
 290 295 300

aag gca aaa ttg tct gta gga tgg tca gtt taa 945  
 Lys Ala Lys Leu Ser Val Gly Trp Ser Val  
 305 310

<210> 500  
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Asn Asp Ser Glu Leu Gln Val Pro Leu Phe Ile Thr Phe Pro Phe Ile

20	25	30
Tyr Ile Ile Thr Leu Val Gly Asn Leu Gly Ile Ile Val Leu Ile Phe 35 40 45		
Trp Asp Ser Cys Leu His Asn Pro Met Tyr Phe Phe Leu Ser Asn Leu 50 55 60		
Ser Leu Val Asp Phe Cys Tyr Ser Ser Ala Val Thr Pro Ile Val Met 65 70 75 80		
Ala Gly Phe Leu Ile Glu Asp Lys Val Ile Ser Tyr Asn Ala Cys Ala 85 90 95		
Ala Gln Met Tyr Ile Phe Val Ala Phe Ala Thr Val Glu Asn Tyr Leu 100 105 110		
Leu Ala Ser Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Lys Pro Leu 115 120 125		
His Tyr Thr Thr Thr Met Thr Thr Thr Val Cys Ala Arg Leu Ala Ile 130 135 140		
Gly Ser Tyr Leu Cys Gly Phe Leu Asn Ala Ser Ile His Thr Gly Asp 145 150 155 160		
Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Glu Val His His Phe Phe 165 170 175		
Cys Asp Ile Pro Ala Val Met Val Leu Ser Cys Ser Asp Arg His Ile 180 185 190		
Ser Glu Leu Val Leu Ile Tyr Val Val Ser Phe Asn Ile Phe Ile Ala 195 200 205		
Leu Leu Val Ile Leu Ile Ser Tyr Thr Phe Ile Phe Ile Thr Ile Leu 210 215 220		
Lys Met His Ser Ala Ser Val Tyr Gln Lys Pro Leu Ser Thr Cys Ala 225 230 235 240		
Ser His Phe Ile Ala Val Gly Ile Phe Tyr Gly Thr Ile Ile Phe Met 245 250 255		
Tyr Leu Gln Pro Ser Ser Ser His Ser Met Asp Thr Asp Lys Met Ala 260 265 270		



Pro Val Phe Tyr Thr Met Val Ile Pro Met Leu Asn Pro Leu Val Tyr  
 275 280 285

Ser Leu Arg Asn Lys Glu Val Lys Ser Ala Phe Lys Lys Val Val Glu  
 290 295 300

Lys Ala Lys Leu Ser Val Gly Trp Ser Val  
 305 310

<210> 501  
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<220>  
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aat caa cct gaa ctc caa gtg atg ata ttc atc ttt ctg ttc ctc acc 96  
 Asn Gln Pro Glu Leu Gln Val Met Ile Phe Ile Phe Leu Phe Leu Thr  
 20 25 30

tac atg cta agt atc cta gga aat ctg act att atc acc ctc acc tta 144  
 Tyr Met Leu Ser Ile Leu Gly Asn Leu Thr Ile Ile Thr Leu Thr Leu  
 35 40 45

cta gac ccc cac ctc cag acc ccc atg tat ttc ttc ctc cgg aat ttc 192  
 Leu Asp Pro His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe  
 50 55 60

tcc ttc tta gaa att tcc ttc aca tcc att ttt att ccc aga ttt ctg 240  
 Ser Phe Leu Glu Ile Ser Phe Thr Ser Ile Phe Ile Pro Arg Phe Leu  
 65 70 75 80

acc agc atg aca aca gga aat aaa gtt atc agc ttt gct ggc tgc ttg 288  
 Thr Ser Met Thr Thr Gly Asn Lys Val Ile Ser Phe Ala Gly Cys Leu  
 85 90 95

act cag tat ttt ttt gct ata ttt ctt gga gct acc gag ttt tac ctc 336  
 Thr Gln Tyr Phe Phe Ala Ile Phe Leu Gly Ala Thr Glu Phe Tyr Leu  
 100 105 110

ctg gcc tcc atg tct tat gat cgt tat gtg gcc atc tgc aaa ccc ttg 384  
 Leu Ala Ser Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125

cat tac ctg act att atg agc agc aga gtc tgc ata caa cta gtg ttc 432  
 His Tyr Leu Thr Ile Met Ser Ser Arg Val Cys Ile Gln Leu Val Phe  
 130 135 140

tgc tcc tgg ttg ggg gga ttc cta gca atc tta cca cca atc atc ctg 480  
 Cys Ser Trp Leu Gly Gly Phe Leu Ala Ile Leu Pro Pro Ile Ile Leu  
 145 150 155 160  
  
 atg acc cag gta gat ttc tgt gtc tcc aac att ctg aat cac tat tac 528  
 Met Thr Gln Val Asp Phe Cys Val Ser Asn Ile Leu Asn His Tyr Tyr  
 165 170 175  
  
 tgt gac tat ggg cct ctc gtg gag ctt gcc tgc tca gac aca agc ctc 576  
 Cys Asp Tyr 180 Leu Val Glu Leu Ala Cys Ser Asp Thr Ser Leu  
 185 190  
  
 tta gaa ctg atg gtc atc ctc ttg gcc gtt gtg act ctc atg gtt act 624  
 Leu Glu Leu Met Val Ile Leu Leu Ala Val Val Thr Leu Met Val Thr  
 195 200 205  
  
 ctg gtg ctg gtg aca ctt tct tac aca tac att atc agg act att ctg 672  
 Leu Val Leu Val Thr Leu Ser Tyr Thr Tyr Ile Ile Arg Thr Ile Leu  
 210 215 220  
  
 agg atc cct tct gcc cag caa agg aca aag gcc ttt tcc act tgt tcc 720  
 Arg Ile Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser  
 225 230 235 240  
  
 tcc cac atg att gtc atc tcc ctc tct tat ggc agc tgc atg ttt atg 768  
 Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met  
 245 250 255  
  
 tac att aat cct tct gca aaa gaa gga ggt gct ttc aac aaa gga ata 816  
 Tyr Ile Asn Pro Ser Ala Lys Glu Gly Gly Ala Phe Asn Lys Gly Ile  
 260 265 270  
  
 gct gta ctc att act tcg gtt act ccc tta ctg aat ccc ttc ata tat 864  
 Ala Val Leu Ile Thr Ser Val Thr Pro Leu Leu Asn Pro Phe Ile Tyr  
 275 280 285  
  
 act tta aga aat cag caa gtg aaa caa gct ttc aag gac tca gtc aaa 912  
 Thr Leu Arg Asn Gln Gln Val Lys Gln Ala Phe Lys Asp Ser Val Lys  
 290 295 300  
  
 aag att gtg aaa ctt taa 930  
 Lys Ile Val Lys Leu  
 305

<210> 502  
 <211> 309  
 <212> PRT  
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 20 25 30

Tyr Met Leu Ser Ile Leu Gly Asn Leu Thr Ile Ile Thr Leu Thr Leu

35	40	45																	
Leu	Asp	Pro	His	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg	Asn	Phe				
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Ser	Phe	Leu	Glu	Ile	Ser	Phe	Thr	Ser	Ile	Phe	Ile	Pro	Arg	Phe	Leu				
65					70					75					80				
Thr	Ser	Met	Thr	Thr	Gly	Asn	Lys	Val	Ile	Ser	Phe	Ala	Gly	Cys	Leu				
				85					90					95					
Thr	Gln	Tyr	Phe	Phe	Ala	Ile	Phe	Leu	Gly	Ala	Thr	Glu	Phe	Tyr	Leu				
			100					105					110						
Leu	Ala	Ser	Met	Ser	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu				
		115					120					125							
His	Tyr	Leu	Thr	Ile	Met	Ser	Ser	Arg	Val	Cys	Ile	Gln	Leu	Val	Phe				
	130					135					140								
Cys	Ser	Trp	Leu	Gly	Gly	Phe	Leu	Ala	Ile	Leu	Pro	Pro	Ile	Ile	Leu				
145					150					155					160				
Met	Thr	Gln	Val	Asp	Phe	Cys	Val	Ser	Asn	Ile	Leu	Asn	His	Tyr	Tyr				
				165					170					175					
Cys	Asp	Tyr	Gly	Pro	Leu	Val	Glu	Leu	Ala	Cys	Ser	Asp	Thr	Ser	Leu				
			180					185					190						
Leu	Glu	Leu	Met	Val	Ile	Leu	Leu	Ala	Val	Val	Thr	Leu	Met	Val	Thr				
		195					200					205							
Leu	Val	Leu	Val	Thr	Leu	Ser	Tyr	Thr	Tyr	Ile	Ile	Arg	Thr	Ile	Leu				
	210					215					220								
Arg	Ile	Pro	Ser	Ala	Gln	Gln	Arg	Thr	Lys	Ala	Phe	Ser	Thr	Cys	Ser				
225					230					235					240				
Ser	His	Met	Ile	Val	Ile	Ser	Leu	Ser	Tyr	Gly	Ser	Cys	Met	Phe	Met				
				245					250					255					
Tyr	Ile	Asn	Pro	Ser	Ala	Lys	Glu	Gly	Gly	Ala	Phe	Asn	Lys	Gly	Ile				
			260					265					270						
Ala	Val	Leu	Ile	Thr	Ser	Val	Thr	Pro	Leu	Leu	Asn	Pro	Phe	Ile	Tyr				
		275					280					285							

Thr Leu Arg Asn Gln Gln Val Lys Gln Ala Phe Lys Asp Ser Val Lys  
 290 295 300

Lys Ile Val Lys Leu  
 305

<210> 503  
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<220>  
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 1 5 10 15  
 gat gtc cct gaa ctc cag gtg gca gtt ttc acc ttt ctt ttc ctt gcg 96  
 Asp Val Pro Glu Leu Gln Val Ala Val Phe Thr Phe Leu Phe Leu Ala  
 20 25 30  
 tat tta ctc agc atc ctt gga aat ctg act atc ctc atc ctc acc ttg 144  
 Tyr Leu Leu Ser Ile Leu Gly Asn Leu Thr Ile Leu Ile Leu Thr Leu  
 35 40 45  
 ctg gac tcc cac ctt cag act ccc atg tat ttc ttt ctc cgg aac ttc 192  
 Leu Asp Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe  
 50 55 60  
 tcc ttc ttg gaa att tcc ttc aca aac atc ttc att cca agg gtc ctg 240  
 Ser Phe Leu Glu Ile Ser Phe Thr Asn Ile Phe Ile Pro Arg Val Leu  
 65 70 75 80  
 att agc atc aca aca ggg aac aag agt atc agc ttt gct ggc tgc ttc 288  
 Ile Ser Ile Thr Thr Gly Asn Lys Ser Ile Ser Phe Ala Gly Cys Phe  
 85 90 95  
 act cag tat ttc ttt gcc atg ttc ctt ggg gct aca gag ttt tac ctt 336  
 Thr Gln Tyr Phe Phe Ala Met Phe Leu Gly Ala Thr Glu Phe Tyr Leu  
 100 105 110  
 ctg gct gcc atg tcc tat gac cgc tat gtg gcc atc tgc aaa cct ctg 384  
 Leu Ala Ala Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu  
 115 120 125  
 cat tac acc acc atc atg agc agc aga atc tgc atc cag ctg att ttc 432  
 His Tyr Thr Thr Ile Met Ser Ser Arg Ile Cys Ile Gln Leu Ile Phe  
 130 135 140  
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 Cys Ser Trp Leu Gly Gly Leu Met Ala Ile Ile Pro Thr Ile Thr Leu  
 145 150 155 160

atg agt cag cag gac ttt tgt gca tcc aac aga ctg aat cat tac ttc 528  
 Met Ser Gln Gln Asp Phe Cys Ala Ser Asn Arg Leu Asn His Tyr Phe  
 165 170 175  
 tgt gac tat gag cct ctt ctg gaa ctc tca tgt tca gac aca agc ctc 576  
 Cys Asp Tyr Glu Pro Leu Leu Glu Leu Ser Cys Ser Asp Thr Ser Leu  
 180 185 190  
 ata gag aag gtt gtc ttt ctt gtg gca tct gtg acc ctg gtg gtc act 624  
 Ile Glu Lys Val Val Phe Leu Val Ala Ser Val Thr Leu Val Val Thr  
 195 200 205  
 ctg gtg cta gtg att ctc tcc tat gca ttc att atc aag act att ctg 672  
 Leu Val Leu Val Ile Leu Ser Tyr Ala Phe Ile Ile Lys Thr Ile Leu  
 210 215 220  
 aag ctc ccc tct gcc caa caa agg aca aaa gcc ttt tcc aca tgt tct 720  
 Lys Leu Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser  
 225 230 235 240  
 tcc cac atg att gtc atc tcc ctc tct tac gga agc tgc atg ttt atg 768  
 Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met  
 245 250 255  
 tac att aat ccc tct gca aaa gaa ggg gat aca ttc aac aag gga gta 816  
 Tyr Ile Asn Pro Ser Ala Lys Glu Gly Asp Thr Phe Asn Lys Gly Val  
 260 265 270  
 gct cta ctc att act tca gtt gct cct ttg ttg aac ccc ttt att tac 864  
 Ala Leu Leu Ile Thr Ser Val Ala Pro Leu Leu Asn Pro Phe Ile Tyr  
 275 280 285  
 acc cta agg aac caa cag gta aaa caa ccc ttc aag gat atg gtc aaa 912  
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Tyr Leu Leu Ser Ile Leu Gly Asn Leu Thr Ile Leu Ile Leu Thr Leu  
 35 40 45

Leu Asp Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg Asn Phe

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Ile Ser Ile Thr Thr Gly Asn Lys Ser Ile Ser Phe Ala Gly Cys Phe		
	85	90 95
Thr Gln Tyr Phe Phe Ala Met Phe Leu Gly Ala Thr Glu Phe Tyr Leu		
	100	105 110
Leu Ala Ala Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu		
	115	120 125
His Tyr Thr Thr Ile Met Ser Ser Arg Ile Cys Ile Gln Leu Ile Phe		
	130	135 140
Cys Ser Trp Leu Gly Gly Leu Met Ala Ile Ile Pro Thr Ile Thr Leu		
	145	150 155 160
Met Ser Gln Gln Asp Phe Cys Ala Ser Asn Arg Leu Asn His Tyr Phe		
	165	170 175
Cys Asp Tyr Glu Pro Leu Leu Glu Leu Ser Cys Ser Asp Thr Ser Leu		
	180	185 190
Ile Glu Lys Val Val Phe Leu Val Ala Ser Val Thr Leu Val Val Thr		
	195	200 205
Leu Val Leu Val Ile Leu Ser Tyr Ala Phe Ile Ile Lys Thr Ile Leu		
	210	215 220
Lys Leu Pro Ser Ala Gln Gln Arg Thr Lys Ala Phe Ser Thr Cys Ser		
	225	230 235 240
Ser His Met Ile Val Ile Ser Leu Ser Tyr Gly Ser Cys Met Phe Met		
	245	250 255
Tyr Ile Asn Pro Ser Ala Lys Glu Gly Asp Thr Phe Asn Lys Gly Val		
	260	265 270
Ala Leu Leu Ile Thr Ser Val Ala Pro Leu Leu Asn Pro Phe Ile Tyr		
	275	280 285
Thr Leu Arg Asn Gln Gln Val Lys Gln Pro Phe Lys Asp Met Val Lys		
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Lys Leu Leu Asn Leu  
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cta tcc cag act cca gag gtc caa cta gtc cta ttt gtt ata ttt cta      96
Leu Ser Gln Thr Pro Glu Val Gln Leu Val Leu Phe Val Ile Phe Leu
          20          25          30

tcc ttc tat ttg ttc atc cta cca gga aat atc ctt atc att tgc acc      144
Ser Phe Tyr Leu Phe Ile Leu Pro Gly Asn Ile Leu Ile Ile Cys Thr
          35          40          45

atc agt cta gac cct cat ctg acc tct cct atg tat ttc ctg ttg gct      192
Ile Ser Leu Asp Pro His Leu Thr Ser Pro Met Tyr Phe Leu Leu Ala
          50          55          60

aat ctg gcc ttc ctt gat att tgg tac tct tcc att aca gcc cct gaa      240
Asn Leu Ala Phe Leu Asp Ile Trp Tyr Ser Ser Ile Thr Ala Pro Glu
65          70          75          80

atg ctc ata gac ttc ttt gtg gag agg aag ata att tct ttt gat gga      288
Met Leu Ile Asp Phe Phe Val Glu Arg Lys Ile Ile Ser Phe Asp Gly
          85          90          95

tgc att gca cag ctc ttc ttc tta cac ttt gct ggg gct tgc gag atg      336
Cys Ile Ala Gln Leu Phe Phe Leu His Phe Ala Gly Ala Ser Glu Met
          100          105          110

ttc ttg ctc aca gtg atg gcc ttt gac ctc tac act gct atc tgc cga      384
Phe Leu Leu Thr Val Met Ala Phe Asp Leu Tyr Thr Ala Ile Cys Arg
          115          120          125

ccc ctc cac tat gct acc atc atg aat caa cgt ctc tgc tgt atc ctg      432
Pro Leu His Tyr Ala Thr Ile Met Asn Gln Arg Leu Cys Cys Ile Leu
          130          135          140

gtg gct ctc tcc tgg agg ggg ggc ttc att cat tct atc ata cag gtg      480
Val Ala Leu Ser Trp Arg Gly Gly Phe Ile His Ser Ile Ile Gln Val
145          150          155          160

gct ctc att gtt cga ctt cct ttc tgt ggg ccc aat gag tta gac agt      528
Ala Leu Ile Val Arg Leu Pro Phe Cys Gly Pro Asn Glu Leu Asp Ser
          165          170          175

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tac ttc tgt gac atc aca cag gtt gtc cgg att gcc tgt gcc aac acc 576  
 Tyr Phe Cys Asp Ile Thr Gln Val Val Arg Ile Ala Cys Ala Asn Thr  
 180 185 190

ttc cca gag gag tta gtg atg atc tgt agt agt ggt ctg atc tct gtg 624  
 Phe Pro Glu Glu Leu Val Met Ile Cys Ser Ser Gly Leu Ile Ser Val  
 195 200 205

gtg tgt ttg att gct ctg tta atg tcc tat gcc ttc ctt ctg gcc ttg 672  
 Val Cys Leu Ile Ala Leu Leu Met Ser Tyr Ala Phe Leu Leu Ala Leu  
 210 215 220

ttc aag aaa ctt tca ggc tca ggt gag aat acc aac agg gcc atg tcc 720  
 Phe Lys Lys Leu Ser Gly Ser Gly Glu Asn Thr Asn Arg Ala Met Ser  
 225 230 235 240

acc tgc tat tcc cac att acc att gtg gtg cta atg ttt ggg cca tcc 768  
 Thr Cys Tyr Ser His Ile Thr Ile Val Val Leu Met Phe Gly Pro Ser  
 245 250 255

atc tac att tat gct cgc cca ttt gac tcg ttt tcc cta gat aaa gtg 816  
 Ile Tyr Ile Tyr Ala Arg Pro Phe Asp Ser Phe Ser Leu Asp Lys Val  
 260 265 270

gtg tct gtg ttc aat act tta ata ttc cct tta cgt aat ccc att att 864  
 Val Ser Val Phe Asn Thr Leu Ile Phe Pro Leu Arg Asn Pro Ile Ile  
 275 280 285

tac aca ttg aga aac aag gaa gta aag gca gcc atg agg aag ttg gtc 912  
 Tyr Thr Leu Arg Asn Lys Glu Val Lys Ala Ala Met Arg Lys Leu Val  
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acc aaa tat att ttg tgt aaa gag aag tga 942  
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Ser Phe Tyr Leu Phe Ile Leu Pro Gly Asn Ile Leu Ile Ile Cys Thr  
 35 40 45

Ile Ser Leu Asp Pro His Leu Thr Ser Pro Met Tyr Phe Leu Leu Ala  
 50 55 60

Asn Leu Ala Phe Leu Asp Ile Trp Tyr Ser Ser Ile Thr Ala Pro Glu



65		70		75		80									
Met	Leu	Ile	Asp	Phe	Phe	Val	Glu	Arg	Lys	Ile	Ile	Ser	Phe	Asp	Gly
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Cys	Ile	Ala	Gln	Leu	Phe	Phe	Leu	His	Phe	Ala	Gly	Ala	Ser	Glu	Met
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Phe	Leu	Leu	Thr	Val	Met	Ala	Phe	Asp	Leu	Tyr	Thr	Ala	Ile	Cys	Arg
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Pro	Leu	His	Tyr	Ala	Thr	Ile	Met	Asn	Gln	Arg	Leu	Cys	Cys	Ile	Leu
		130					135				140				
Val	Ala	Leu	Ser	Trp	Arg	Gly	Gly	Phe	Ile	His	Ser	Ile	Ile	Gln	Val
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Ala	Leu	Ile	Val	Arg	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Glu	Leu	Asp	Ser
				165					170					175	
Tyr	Phe	Cys	Asp	Ile	Thr	Gln	Val	Val	Arg	Ile	Ala	Cys	Ala	Asn	Thr
			180					185					190		
Phe	Pro	Glu	Glu	Leu	Val	Met	Ile	Cys	Ser	Ser	Gly	Leu	Ile	Ser	Val
		195					200					205			
Val	Cys	Leu	Ile	Ala	Leu	Leu	Met	Ser	Tyr	Ala	Phe	Leu	Leu	Ala	Leu
		210					215				220				
Phe	Lys	Lys	Leu	Ser	Gly	Ser	Gly	Glu	Asn	Thr	Asn	Arg	Ala	Met	Ser
225					230					235				240	
Thr	Cys	Tyr	Ser	His	Ile	Thr	Ile	Val	Val	Leu	Met	Phe	Gly	Pro	Ser
				245					250					255	
Ile	Tyr	Ile	Tyr	Ala	Arg	Pro	Phe	Asp	Ser	Phe	Ser	Leu	Asp	Lys	Val
			260					265					270		
Val	Ser	Val	Phe	Asn	Thr	Leu	Ile	Phe	Pro	Leu	Arg	Asn	Pro	Ile	Ile
		275					280					285			
Tyr	Thr	Leu	Arg	Asn	Lys	Glu	Val	Lys	Ala	Ala	Met	Arg	Lys	Leu	Val
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 <213> Homo Sapiens

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1          5          10          15

ctg act cag tct caa gat att cag ctc ttg gtc ttt gtg ctg atc tta      96
Leu Thr Gln Ser Gln Asp Ile Gln Leu Leu Val Phe Val Leu Ile Leu
          20          25          30

att ttc tac ctt atc atc ctc cct gga aat ttt ctc att att ttc acc      144
Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr
          35          40          45

ata agg tca gac cct ggg ctc aca gcc ccc ctc tat tta ttt ctg ggc      192
Ile Arg Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Leu Phe Leu Gly
          50          55          60

aac ttg gcc ttc ctg gat gca tcc tac tcc ttc att gtg gct ccc agg      240
Asn Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Ile Val Ala Pro Arg
65          70          75          80

atg ttg gtg gac ttc ctc tct gag aaa aag gta atc tcc tac aga ggc      288
Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Gly
          85          90          95

tgc atc act cag ctc ttt ttc ttg cac ttc ctt gga gga ggg gag gga      336
Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly
          100          105          110

tta ctc ctt gtt gtg atg gcc ttt gac cgc tac atc gcc atc tgc cgg      384
Leu Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg
          115          120          125

cct ctg cac tgt tca act gtc atg aac cct aga gcc tgc tat gca atg      432
Pro Leu His Cys Ser Thr Val Met Asn Pro Arg Ala Cys Tyr Ala Met
          130          135          140

atg ttg gct ctg tgg ctt ggg ggt ttt gtc cac tcc att atc cag gtg      480
Met Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val
145          150          155          160

gtc ctc atc ctc cgc ttg cct ttt tgt ggc cca aac cag ctg gac aac      528
Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn
          165          170          175

ttc ttc tgt gat gtc cga cag gtc atc aag ctg gct tgc acc gac atg      576
Phe Phe Cys Asp Val Arg Gln Val Ile Lys Leu Ala Cys Thr Asp Met
          180          185          190

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ttt gtg gtg gag ctt cta atg gtc ttc aac agt ggc ctg atg aca ctc 624  
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 195 200 205

ctg tgc ttt ctg ggg ctt ctg gct tcc tat gca gtc atc ctc tgc cat 672  
 Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys His  
 210 215 220

gtt cgt agg gca gct tct gaa ggg aag aac aag gcc atg tcc acg tgc 720  
 Val Arg Arg Ala Ala Ser Glu Gly Lys Asn Lys Ala Met Ser Thr Cys  
 225 230 235 240

acc act cgt gtc att att ata ctt ctt atg ttt gga cct gct atc ttc 768  
 Thr Thr Arg Val Ile Ile Ile Leu Leu Met Phe Gly Pro Ala Ile Phe  
 245 250 255

atc tac atg tgc cct ttc agg gcc tta cca gct gac aag atg gtt tct 816  
 Ile Tyr Met Cys Pro Phe Arg Ala Leu Pro Ala Asp Lys Met Val Ser  
 260 265 270

ctc ttt cac aca gtg atc ttt cca ttg atg aat cct atg att tat acc 864  
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 275 280 285

ctt cgc aac cag gaa gtg aaa act tcc atg aag agg tta ttg agt cga 912  
 Leu Arg Asn Gln Glu Val Lys Thr Ser Met Lys Arg Leu Leu Ser Arg  
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Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr  
 35 40 45

Ile Arg Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Leu Phe Leu Gly  
 50 55 60

Asn Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Ile Val Ala Pro Arg  
 65 70 75 80

Met Leu Val Asp Phe Leu Ser Glu Lys Lys Val Ile Ser Tyr Arg Gly

85

90

95

Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly  
 100 105 110

Leu Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg  
 115 120 125

Pro Leu His Cys Ser Thr Val Met Asn Pro Arg Ala Cys Tyr Ala Met  
 130 135 140

Met Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val  
 145 150 155 160

Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn  
 165 170 175

Phe Phe Cys Asp Val Arg Gln Val Ile Lys Leu Ala Cys Thr Asp Met  
 180 185 190

Phe Val Val Glu Leu Leu Met Val Phe Asn Ser Gly Leu Met Thr Leu  
 195 200 205

Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys His  
 210 215 220

Val Arg Arg Ala Ala Ser Glu Gly Lys Asn Lys Ala Met Ser Thr Cys  
 225 230 235 240

Thr Thr Arg Val Ile Ile Ile Leu Leu Met Phe Gly Pro Ala Ile Phe  
 245 250 255

Ile Tyr Met Cys Pro Phe Arg Ala Leu Pro Ala Asp Lys Met Val Ser  
 260 265 270

Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Met Ile Tyr Thr  
 275 280 285

Leu Arg Asn Gln Glu Val Lys Thr Ser Met Lys Arg Leu Leu Ser Arg  
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&lt;211&gt; 918

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1          5          10          15

ctg tcc ttc ctt ggg gtc agc ctg gtt tat ggt ttg atc atc act ggg      96
Leu Ser Phe Leu Gly Val Ser Leu Val Tyr Gly Leu Ile Ile Thr Gly
          20          25          30

aac att ctc att gtg gtg tcc att cac aca gaa acc tgt cta tgc aca      144
Asn Ile Leu Ile Val Val Ser Ile His Thr Glu Thr Cys Leu Cys Thr
          35          40          45

tcc atg tac tat ttc ctg ggc agc ctt tct ggg att gaa ata tgc tac      192
Ser Met Tyr Tyr Phe Leu Gly Ser Leu Ser Gly Ile Glu Ile Cys Tyr
          50          55          60

act gca gtg gtg gtg ccc cat atc ctg gcc aac acc cta cag tca gag      240
Thr Ala Val Val Val Pro His Ile Leu Ala Asn Thr Leu Gln Ser Glu
65          70          75          80

aag acc atc act ctc ctg ggc tgt gcc acc cag atg gct ttc ttc att      288
Lys Thr Ile Thr Leu Leu Gly Cys Ala Thr Gln Met Ala Phe Phe Ile
          85          90          95

gca ctg ggc agt gct gat tgc ttc ctc ttg gct gcc atg gcc tat gac      336
Ala Leu Gly Ser Ala Asp Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp
          100          105          110

cgc tat gtg gcc att tgc cac ccg ttg cag tac cct ctc ctc atg aca      384
Arg Tyr Val Ala Ile Cys His Pro Leu Gln Tyr Pro Leu Leu Met Thr
          115          120          125

ttg act ctt tgt gtc cac ttg gtt gtg gca tca gtc atc agt ggt ctg      432
Leu Thr Leu Cys Val His Leu Val Val Ala Ser Val Ile Ser Gly Leu
          130          135          140

ttc ctg tcc tta caa ctg gtg gcc ttc atc ttc tct ctg cca ttc tgc      480
Phe Leu Ser Leu Gln Leu Val Ala Phe Ile Phe Ser Leu Pro Phe Cys
145          150          155          160

cag gct cag ggc att gag cac ttc ttt tgt gat gtg cca cca gtc atg      528
Gln Ala Gln Gly Ile Glu His Phe Phe Cys Asp Val Pro Pro Val Met
          165          170          175

cat gtt gtt tgt gct cag agt cac att cat gag cag tca gtg ctg gtg      576
His Val Val Cys Ala Gln Ser His Ile His Glu Gln Ser Val Leu Val
          180          185          190

gca gcc ata cta gcc att gct gtg cct ttc ttc ctc atc acc acc tcc      624
Ala Ala Ile Leu Ala Ile Ala Val Pro Phe Phe Leu Ile Thr Thr Ser
          195          200          205

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tac acc ttc ata gtg gct gct ctg ctc aag atc cac tcg gct gct ggc 672  
 Tyr Thr Phe Ile Val Ala Ala Leu Leu Lys Ile His Ser Ala Ala Gly  
 210 215 220  
 cgc cac cgg gcc ttc tcc acc tgc tct tcc cac ctc act gtg gtg ctg 720  
 Arg His Arg Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Leu  
 225 230 235 240  
 ctg cag tat ggc tgc tgt gcc ttc atg tac ctg tgc ccc agc tcc agc 768  
 Leu Gln Tyr Gly Cys Cys Ala Phe Met Tyr Leu Cys Pro Ser Ser Ser  
 245 250 255  
 tac aac ccc aag caa gat cgg ttc atc tca ctg gtg tac aca ttg gga 816  
 Tyr Asn Pro Lys Gln Asp Arg Phe Ile Ser Leu Val Tyr Thr Leu Gly  
 260 265 270  
 acc cca ctg ctc aac cca ctt atc tat gcc ctg agg aac agt gag atg 864  
 Thr Pro Leu Leu Asn Pro Leu Ile Tyr Ala Leu Arg Asn Ser Glu Met  
 275 280 285  
 aaa ggg gcc gta ggg aga gtt ctt acc agg aac tgc ctt tcc cag aac 912  
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 agc tag 918  
 Ser  
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 Asn Ile Leu Ile Val Val Ser Ile His Thr Glu Thr Cys Leu Cys Thr  
 35 40 45  
 Ser Met Tyr Tyr Phe Leu Gly Ser Leu Ser Gly Ile Glu Ile Cys Tyr  
 50 55 60  
 Thr Ala Val Val Val Pro His Ile Leu Ala Asn Thr Leu Gln Ser Glu  
 65 70 75 80  
 Lys Thr Ile Thr Leu Leu Gly Cys Ala Thr Gln Met Ala Phe Phe Ile  
 85 90 95  
 Ala Leu Gly Ser Ala Asp Cys Phe Leu Leu Ala Ala Met Ala Tyr Asp

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Arg Tyr Val Ala Ile Cys His Pro Leu Gln Tyr Pro Leu Leu Met Thr					
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Leu Thr Leu Cys Val His Leu Val Val Ala Ser Val Ile Ser Gly Leu					
	130		135		140
Phe Leu Ser Leu Gln Leu Val Ala Phe Ile Phe Ser Leu Pro Phe Cys					
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					160
Gln Ala Gln Gly Ile Glu His Phe Phe Cys Asp Val Pro Pro Val Met					
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					175
His Val Val Cys Ala Gln Ser His Ile His Glu Gln Ser Val Leu Val					
			180		185
					190
Ala Ala Ile Leu Ala Ile Ala Val Pro Phe Phe Leu Ile Thr Thr Ser					
			195		200
					205
Tyr Thr Phe Ile Val Ala Ala Leu Leu Lys Ile His Ser Ala Ala Gly					
			210		215
					220
Arg His Arg Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Leu					
			225		230
					235
Leu Gln Tyr Gly Cys Cys Ala Phe Met Tyr Leu Cys Pro Ser Ser Ser					
			245		250
					255
Tyr Asn Pro Lys Gln Asp Arg Phe Ile Ser Leu Val Tyr Thr Leu Gly					
			260		265
					270
Thr Pro Leu Leu Asn Pro Leu Ile Tyr Ala Leu Arg Asn Ser Glu Met					
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					285
Lys Gly Ala Val Gly Arg Val Leu Thr Arg Asn Cys Leu Ser Gln Asn					
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Ser					
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&lt;223&gt;

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Met Leu Met Asn Tyr Ser Ser Ala Thr Glu Phe Tyr Leu Leu Gly Phe
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cct ggc tct gaa gaa cta cat cat atc ctt ttt gct ata ttc ttc ttt      96
Pro Gly Ser Glu Glu Leu His His Ile Leu Phe Ala Ile Phe Phe Phe
20      25      30

ttc tac ttg gtg aca tta atg gga aac aca gtc atc atc atg att gtc      144
Phe Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Met Ile Val
35      40      45

tgt gtg gat aaa cgt ctg cag tcc ccc atg tat ttc ttc ctc ggc cac      192
Cys Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Gly His
50      55      60

ctc tct gcc ctg gag atc ctg gtc aca acc ata atc gtc ccc gtg atg      240
Leu Ser Ala Leu Glu Ile Leu Val Thr Thr Ile Val Pro Val Met
65      70      75      80

ctt tgg gga ttg ctg ctc cct ggg atg cag aca ata tat ttg tct gcc      288
Leu Trp Gly Leu Leu Leu Pro Gly Met Gln Thr Ile Tyr Leu Ser Ala
85      90      95

tgt gtt gtc cag ctc ttc ttg tac ctt gct gtg ggg aca aca gag ttc      336
Cys Val Val Gln Leu Phe Leu Tyr Leu Ala Val Gly Thr Thr Glu Phe
100     105     110

gca tta ctt gga gca atg gct gtg gac cgt tat gtg gct gtc tgt aac      384
Ala Leu Leu Gly Ala Met Ala Val Asp Arg Tyr Val Ala Val Cys Asn
115     120     125

cct ctg agg tac aac atc att atg aac aga cac acc tgc aac ttt gtg      432
Pro Leu Arg Tyr Asn Ile Ile Met Asn Arg His Thr Cys Asn Phe Val
130     135     140

gtt ctt gtg tca tgg gtg ttt ggg ttt ctt ttt caa atc tgg ccg gtc      480
Val Leu Val Ser Trp Val Phe Gly Phe Leu Phe Gln Ile Trp Pro Val
145     150     155     160

tat gtc atg ttt cag ctt act tac tgc aaa tca aat gtg gtg aac aat      528
Tyr Val Met Phe Gln Leu Thr Tyr Cys Lys Ser Asn Val Val Asn Asn
165     170     175

ttt ttt tgt gac cga ggg caa ttg ctc aaa cta tcc tgc aat aat act      576
Phe Phe Cys Asp Arg Gly Gln Leu Leu Lys Leu Ser Cys Asn Asn Thr
180     185     190

ctt ttc acg gag ttt atc ctc ttc tta atg gct gtt ttt gtt ctc ttt      624
Leu Phe Thr Glu Phe Ile Leu Phe Leu Met Ala Val Phe Val Leu Phe
195     200     205

ggg tct ttg atc cct aca att gtc tcc aac gcc tac atc atc tcc acc      672
Gly Ser Leu Ile Pro Thr Ile Val Ser Asn Ala Tyr Ile Ile Ser Thr
210     215     220

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att ctc aag atc ccg tca tcc tct ggc cgg agg aaa tcc ttc tcc act 720  
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 225 230 235 240

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 Cys Ala Ser His Phe Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu  
 245 250 255

ttt ctc tac gtg aaa ccc aag caa acg cag gca gct gat tac aat tgg 816  
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 260 265 270

gta gtt tcc ctg atg gtt tca gta gta act cct ttc ctc aat cct ttc 864  
 Val Val Ser Leu Met Val Ser Val Val Thr Pro Phe Leu Asn Pro Phe  
 275 280 285

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Phe Tyr Leu Val Thr Leu Met Gly Asn Thr Val Ile Ile Met Ile Val  
 35 40 45

Cys Val Asp Lys Arg Leu Gln Ser Pro Met Tyr Phe Phe Leu Gly His  
 50 55 60

Leu Ser Ala Leu Glu Ile Leu Val Thr Thr Ile Ile Val Pro Val Met  
 65 70 75 80

Leu Trp Gly Leu Leu Leu Pro Gly Met Gln Thr Ile Tyr Leu Ser Ala  
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Ile Pro His Thr Glu Gly Leu Glu Met Thr Leu Phe Val Leu Phe Leu  
20 25 30

ccc ttc tat gcc tgc act cta ctg gga aat gtg tct atc ctt gtt gct 144  
Pro Phe Tyr Ala Cys Thr Leu Leu Gly Asn Val Ser Ile Leu Val Ala  
35 40 45

gtt atg tct tct gct cgc ctt cac aca cct atg tat ttc ttc ctg gga 192  
Val Met Ser Ser Ala Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
50 55 60

aac ttg tct gtg ttt gac atg ggt ttc tcc tca gtg act tgt ccc aaa 240  
Asn Leu Ser Val Phe Asp Met Gly Phe Ser Ser Val Thr Cys Pro Lys  
65 70 75 80

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Met Leu Leu Tyr Leu Met Gly Leu Ser Arg Leu Ile Ser Tyr Lys Asp  
85 90 95

tgt gtc tgc cag ctt ttc ttc ttc cat ttc ctc ggg agc att gag tgc 336  
Cys Val Cys Gln Leu Phe Phe Phe His Phe Leu Gly Ser Ile Glu Cys  
100 105 110

ttc ttg ttt acg gtg atg gcc tat gac cgc ttc act gcc atc tgt tat 384  
Phe Leu Phe Thr Val Met Ala Tyr Asp Arg Phe Thr Ala Ile Cys Tyr  
115 120 125

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Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg Ile Cys Val Ala Leu  
130 135 140

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145 150 155 160

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165 170 175

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180 185 190

tcc tta gcc cag agg gtg agc ttc acc aac gtt ggc ctc ata tct ctt 624  
Ser Leu Ala Gln Arg Val Ser Phe Thr Asn Val Gly Leu Ile Ser Leu  
195 200 205

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Val Cys Phe Leu Leu Ile Leu Leu Ser Tyr Thr Arg Ile Thr Ile Ser  
210 215 220

atc tta agc att cgt aca act gag ggc cgt cgc cgt gcc ttc tcc acc 720  
Ile Leu Ser Ile Arg Thr Thr Glu Gly Arg Arg Arg Ala Phe Ser Thr  
225 230 235 240

tgc agt gct cac ctc att gcc atc ctc tgt gcc tat ggg ccc atc atc 768  
 Cys Ser Ala His Leu Ile Ala Ile Leu Cys Ala Tyr Gly Pro Ile Ile  
 245 250 255  
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 260 265 270  
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 Gln Ile Leu Met Asn Leu Val Gly Pro Met Leu Asn Pro Leu Ile Tyr  
 275 280 285  
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 Thr Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Thr Ile Leu His  
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 Pro Phe Tyr Ala Cys Thr Leu Leu Gly Asn Val Ser Ile Leu Val Ala  
 35 40 45  
 Val Met Ser Ser Ala Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60  
 Asn Leu Ser Val Phe Asp Met Gly Phe Ser Ser Val Thr Cys Pro Lys  
 65 70 75 80  
 Met Leu Leu Tyr Leu Met Gly Leu Ser Arg Leu Ile Ser Tyr Lys Asp  
 85 90 95  
 Cys Val Cys Gln Leu Phe Phe Phe His Phe Leu Gly Ser Ile Glu Cys  
 100 105 110  
 Phe Leu Phe Thr Val Met Ala Tyr Asp Arg Phe Thr Ala Ile Cys Tyr  
 115 120 125  
 Pro Leu Arg Tyr Thr Val Ile Met Asn Pro Arg Ile Cys Val Ala Leu

130                                      135                                      140  
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 145                                      150                                      155                                      160  
 Ser Leu Thr Phe Thr Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp His  
                                     165                                      170                                      175  
 Phe Phe Cys Asp Ile Pro Ala Leu Leu Pro Leu Ala Cys Ala Asp Thr  
                                     180                                      185                                      190  
 Ser Leu Ala Gln Arg Val Ser Phe Thr Asn Val Gly Leu Ile Ser Leu  
                                     195                                      200                                      205  
 Val Cys Phe Leu Leu Ile Leu Leu Ser Tyr Thr Arg Ile Thr Ile Ser  
                                     210                                      215                                      220  
 Ile Leu Ser Ile Arg Thr Thr Glu Gly Arg Arg Arg Ala Phe Ser Thr  
 225                                      230                                      235                                      240  
 Cys Ser Ala His Leu Ile Ala Ile Leu Cys Ala Tyr Gly Pro Ile Ile  
                                     245                                      250                                      255  
 Thr Val Tyr Leu Gln Pro Thr Pro Asn Pro Met Leu Gly Thr Val Val  
                                     260                                      265                                      270  
 Gln Ile Leu Met Asn Leu Val Gly Pro Met Leu Asn Pro Leu Ile Tyr  
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 Thr Leu Arg Asn Lys Glu Val Lys Thr Ala Leu Lys Thr Ile Leu His  
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1	5	10	15	
atg ctt ttt agt ata ttt tta ctt atg tat ttg atg atc ctg atg tgc				96
Met Leu Phe Ser Ile Phe Leu Leu Met Tyr Leu Met Ile Leu Met Cys				
20	25	30		
aat ggc atc ata ata cta cta ata aaa att cac ccc gct ctc cag act				144
Asn Gly Ile Ile Ile Leu Leu Ile Lys Ile His Pro Ala Leu Gln Thr				
35	40	45		
ccc atg tat ttt ttt ctt agc aat ttt tcc ctt ttg gaa atc tgt tat				192
Pro Met Tyr Phe Phe Leu Ser Asn Phe Ser Leu Leu Glu Ile Cys Tyr				
50	55	60		
gta aca atc att atc cca aga atg ctc atg gac att tgg act cag aaa				240
Val Thr Ile Ile Ile Pro Arg Met Leu Met Asp Ile Trp Thr Gln Lys				
65	70	75	80	
gga aat att tct ttg ttt gct tgt gct aca caa atg tgt ttt ttt ctt				288
Gly Asn Ile Ser Leu Phe Ala Cys Ala Thr Gln Met Cys Phe Phe Leu				
85	90	95		
atg ctt gga ggc acg gag tgt ctc ctt ctg aca gtg atg gcc tat gac				336
Met Leu Gly Gly Thr Glu Cys Leu Leu Leu Thr Val Met Ala Tyr Asp				
100	105	110		
cgc tac gtg gct att tgt aag cct ttg cag tat cct cta gtg atg aac				384
Arg Tyr Val Ala Ile Cys Lys Pro Leu Gln Tyr Pro Leu Val Met Asn				
115	120	125		
cac aaa gtc tgc att cag ctg ata ata gct tcc tgg acc atc aca att				432
His Lys Val Cys Ile Gln Leu Ile Ile Ala Ser Trp Thr Ile Thr Ile				
130	135	140		
cct gta gta att ggg gaa aca tgc caa att ttc ctt ttg ccc ttt tgc				480
Pro Val Val Ile Gly Glu Thr Cys Gln Ile Phe Leu Leu Pro Phe Cys				
145	150	155	160	
gga act aac aca att aat cat ttc ttt tgt gac atc ccg cca ata ctc				528
Gly Thr Asn Thr Ile Asn His Phe Phe Cys Asp Ile Pro Pro Ile Leu				
165	170	175		
aag ctt gct tgt gga aac ata ttt gtg aat gag ata aca gtc cat gta				576
Lys Leu Ala Cys Gly Asn Ile Phe Val Asn Glu Ile Thr Val His Val				
180	185	190		
gta gcg gtg gtg ttt atc acg gtg cca ttt ctg ttg att gtt gtc tct				624
Val Ala Val Val Phe Ile Thr Val Pro Phe Leu Leu Ile Val Val Ser				
195	200	205		
tat ggc aaa att atc tcc aac att ttg aaa ttg tca tca gcc aga gga				672
Tyr Gly Lys Ile Ile Ser Asn Ile Leu Lys Leu Ser Ser Ala Arg Gly				
210	215	220		
aag gct aaa gcc ttc tcc acc tgc tca tct cac cta ata gtt gta atc				720
Lys Ala Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val Val Ile				
225	230	235	240	
tta ttc ttt gga gca ggt act atc act tat tta cag ccc aaa cca cat				768
Leu Phe Phe Gly Ala Gly Thr Ile Thr Tyr Leu Gln Pro Lys Pro His				
245	250	255		

cag ttt caa agg atg ggg aaa ctg att tct ctt ttc tac acc att ctg 816  
 Gln Phe Gln Arg Met Gly Lys Leu Ile Ser Leu Phe Tyr Thr Ile Leu  
                   260                  265                  270

att cca act ttg aat cct att ata tat acc ctg agg aac aaa gat atc 864  
 Ile Pro Thr Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys Asp Ile  
                   275                  280                  285

atg gtg gca ttg aga aaa tta cta gct aag tta tta aca tga 906  
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                   20                  25                  30

Asn Gly Ile Ile Ile Leu Leu Ile Lys Ile His Pro Ala Leu Gln Thr  
                   35                  40                  45

Pro Met Tyr Phe Phe Leu Ser Asn Phe Ser Leu Leu Glu Ile Cys Tyr  
                   50                  55                  60

Val Thr Ile Ile Ile Pro Arg Met Leu Met Asp Ile Trp Thr Gln Lys  
 65                  70                  75                  80

Gly Asn Ile Ser Leu Phe Ala Cys Ala Thr Gln Met Cys Phe Phe Leu  
                   85                  90                  95

Met Leu Gly Gly Thr Glu Cys Leu Leu Leu Thr Val Met Ala Tyr Asp  
                   100                  105                  110

Arg Tyr Val Ala Ile Cys Lys Pro Leu Gln Tyr Pro Leu Val Met Asn  
                   115                  120                  125

His Lys Val Cys Ile Gln Leu Ile Ile Ala Ser Trp Thr Ile Thr Ile  
                   130                  135                  140

Pro Val Val Ile Gly Glu Thr Cys Gln Ile Phe Leu Leu Pro Phe Cys  
 145                  150                  155                  160

Gly Thr Asn Thr Ile Asn His Phe Phe Cys Asp Ile Pro Pro Ile Leu

165

170

175

Lys Leu Ala Cys Gly Asn Ile Phe Val Asn Glu Ile Thr Val His Val  
 180 185 190

Val Ala Val Val Phe Ile Thr Val Pro Phe Leu Leu Ile Val Val Ser  
 195 200 205

Tyr Gly Lys Ile Ile Ser Asn Ile Leu Lys Leu Ser Ser Ala Arg Gly  
 210 215 220

Lys Ala Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val Val Ile  
 225 230 235 240

Leu Phe Phe Gly Ala Gly Thr Ile Thr Tyr Leu Gln Pro Lys Pro His  
 245 250 255

Gln Phe Gln Arg Met Gly Lys Leu Ile Ser Leu Phe Tyr Thr Ile Leu  
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Ile Pro Thr Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys Asp Ile  
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Met Val Ala Leu Arg Lys Leu Leu Ala Lys Leu Leu Thr  
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 20 25 30

ctg att tat ttc atc act ttg ttg gat aat ttg ggt ata att att tta 144  
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 35 40 45

atc tgg tta aat gcc caa ctt cat act cca atg tac ttc ttc ctt ggc 192  
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50	55	60	
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tgt gtt cta cag agt ttc cct ttt gca gta tat gta acc aca aag gac Cys Val Leu Gln Ser Phe Pro Phe Ala Val Tyr Val Thr Thr Lys Asp 100 105 110			336
att ctc ctg tcc atg atg gct tat gac cat tac gtg gcc ata gct aat Ile Leu Leu Ser Met Met Ala Tyr Asp His Tyr Val Ala Ile Ala Asn 115 120 125			384
ccc ttg ttg tat aca gtc att atg gcc caa aaa gtt tgt att cag atg Pro Leu Leu Tyr Thr Val Ile Met Ala Gln Lys Val Cys Ile Gln Met 130 135 140			432
gtc ctt gct tct tac tta ggt ggg ctc att aat tcc ctg aca cac aca Val Leu Ala Ser Tyr Leu Gly Gly Leu Ile Asn Ser Leu Thr His Thr 145 150 155 160			480
ata ggt ttg ctc aaa tta gac ttc tgt ggt cct aat att gtg aat cat Ile Gly Leu Leu Lys Leu Asp Phe Cys Gly Pro Asn Ile Val Asn His 165 170 175			528
tat ttc tgt gat gtt cct cct ctt ctg agg ctt tct tgc tct gat gct Tyr Phe Cys Asp Val Pro Pro Leu Leu Arg Leu Ser Cys Ser Asp Ala 180 185 190			576
cat atc aat gaa atg ctg ccc ttg gtc ttc tct ggg ctc att gca atg His Ile Asn Glu Met Leu Pro Leu Val Phe Ser Gly Leu Ile Ala Met 195 200 205			624
ttc act ttc att gtc att atg gtg tct tat atc tgc atc atc att gcc Phe Thr Phe Ile Val Ile Met Val Ser Tyr Ile Cys Ile Ile Ile Ala 210 215 220			672
atc cag aga atc cat gca gct gag gga agg tac aaa gcc ttc tcc act Ile Gln Arg Ile His Ala Ala Glu Gly Arg Tyr Lys Ala Phe Ser Thr 225 230 235 240			720
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939

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Leu Ile Tyr Phe Ile Thr Leu Leu Asp Asn Leu Gly Ile Ile Ile Leu  
 35 40 45

Ile Trp Leu Asn Ala Gln Leu His Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

Asn Leu Ser Phe Cys Asp Ile Cys Tyr Ser Thr Val Phe Ala Pro Lys  
 65 70 75 80

Met Leu Val Asn Phe Leu Ser Lys His Lys Ser Ser Thr Phe Ser Gly  
 85 90 95

Cys Val Leu Gln Ser Phe Pro Phe Ala Val Tyr Val Thr Thr Lys Asp  
 100 105 110

Ile Leu Leu Ser Met Met Ala Tyr Asp His Tyr Val Ala Ile Ala Asn  
 115 120 125

Pro Leu Leu Tyr Thr Val Ile Met Ala Gln Lys Val Cys Ile Gln Met  
 130 135 140

Val Leu Ala Ser Tyr Leu Gly Gly Leu Ile Asn Ser Leu Thr His Thr  
 145 150 155 160

Ile Gly Leu Leu Lys Leu Asp Phe Cys Gly Pro Asn Ile Val Asn His  
 165 170 175

Tyr Phe Cys Asp Val Pro Pro Leu Leu Arg Leu Ser Cys Ser Asp Ala  
 180 185 190

His Ile Asn Glu Met Leu Pro Leu Val Phe Ser Gly Leu Ile Ala Met

195                                      200                                      205  
 Phe Thr Phe Ile Val Ile Met Val Ser Tyr Ile Cys Ile Ile Ile Ala  
     210                                      215                                      220  
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     225                                      230                                      235                                      240  
 Cys Val Ser His Leu Thr Thr Val Thr Leu Phe Tyr Gly Ser Val Ser  
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 Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Ser Leu Glu Gln Glu Lys  
                                     260                                      265                                      270  
 Val Leu Ala Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
                                     275                                      280                                      285  
 Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ala Lys Arg Leu  
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 Ile Trp Trp Gly Lys Asn Pro Thr  
     305                                      310

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 att acc aat aac cca gag atg aaa gtg acc cta ttt gct gta ttc ttg                      96  
 Ile Thr Asn Asn Pro Glu Met Lys Val Thr Leu Phe Ala Val Phe Leu  
                                     20                                      25                                      30  
 gct gtt tat atc att aat ttc tca gca aat ctt gga atg ata gtt tta                      144  
 Ala Val Tyr Ile Ile Asn Phe Ser Ala Asn Leu Gly Met Ile Val Leu  
                                     35                                      40                                      45  
 atc aga atg gat tac caa ctt cac aca cca atg tat ttc ttc ctc agt                      192  
 Ile Arg Met Asp Tyr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
                                     50                                      55                                      60  
 cat ctg tct ttc tgt gat ctc tgc tat tct act gca act ggg ccc aag                      240  
 His Leu Ser Phe Cys Asp Leu Cys Tyr Ser Thr Ala Thr Gly Pro Lys

65	70	75	80	
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Met Leu Val Asp	Leu Leu Ala Lys Asn Lys Ser Ile Pro Phe Tyr Gly			
	85	90	95	
tgt gct ctg caa ttc ttg gtc ttc tgt atc ttt gca gat tct gag tgt				336
Cys Ala Leu Gln Phe Leu Val Phe Cys Ile Phe Ala Asp Ser Glu Cys				
	100	105	110	
cta ctg ctg tca gtg atg gcc ttt gat cgg tac aag gcc atc atc aac				384
Leu Leu Leu Ser Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ile Asn				
	115	120	125	
ccc ctg ctc tat aca gtc aac atg tct agc aga gtg tgc tat cta ctc				432
Pro Leu Leu Tyr Thr Val Asn Met Ser Ser Arg Val Cys Tyr Leu Leu				
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Leu Thr Gly Val Tyr Leu Val Gly Ile Ala Asp Ala Leu Ile His Met				
	145	150	155	160
aca ctg gcc ttc cgc cta tgc ttc tgt ggg tct aat gag att aat cat				528
Thr Leu Ala Phe Arg Leu Cys Phe Cys Gly Ser Asn Glu Ile Asn His				
	165	170	175	
ttc ttc tgt gat atc cct cct ctc tta tta ctc tct tgc tca gat aca				576
Phe Phe Cys Asp Ile Pro Pro Leu Leu Leu Leu Ser Cys Ser Asp Thr				
	180	185	190	
cag gtc aat gag tta gtg tta ttc acc gtc ttt ggt ttt att gaa ctg				624
Gln Val Asn Glu Leu Val Leu Phe Thr Val Phe Gly Phe Ile Glu Leu				
	195	200	205	
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Ser Thr Ile Ser Gly Val Phe Ile Ser Tyr Cys Tyr Ile Ile Leu Ser				
	210	215	220	
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Val Leu Glu Ile His Ser Ala Glu Gly Arg Phe Lys Ala Leu Ser Thr				
	225	230	235	240
tgc act tcc cac tta tct gcg gtt gca att ttc cag gga act ctg ctc				768
Cys Thr Ser His Leu Ser Ala Val Ala Ile Phe Gln Gly Thr Leu Leu				
	245	250	255	
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Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys				
	260	265	270	
atg acc tca ttg ttt tac acc ctt gtg gtt ccc atg ttg aac ccc ctg				864
Met Thr Ser Leu Phe Tyr Thr Leu Val Val Pro Met Leu Asn Pro Leu				
	275	280	285	
att tat agc ctg agg aac aag gat gtg aaa gag gcc ctg aaa aaa ctg				912
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu				
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Lys Asn Glu Ile Leu Phe				
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 Ala Val Tyr Ile Ile Asn Phe Ser Ala Asn Leu Gly Met Ile Val Leu  
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 Ile Arg Met Asp Tyr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser  
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 His Leu Ser Phe Cys Asp Leu Cys Tyr Ser Thr Ala Thr Gly Pro Lys  
 65 70 75 80  
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 85 90 95  
 Cys Ala Leu Gln Phe Leu Val Phe Cys Ile Phe Ala Asp Ser Glu Cys  
 100 105 110  
 Leu Leu Leu Ser Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ile Asn  
 115 120 125  
 Pro Leu Leu Tyr Thr Val Asn Met Ser Ser Arg Val Cys Tyr Leu Leu  
 130 135 140  
 Leu Thr Gly Val Tyr Leu Val Gly Ile Ala Asp Ala Leu Ile His Met  
 145 150 155 160  
 Thr Leu Ala Phe Arg Leu Cys Phe Cys Gly Ser Asn Glu Ile Asn His  
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 Phe Phe Cys Asp Ile Pro Pro Leu Leu Leu Leu Ser Cys Ser Asp Thr  
 180 185 190  
 Gln Val Asn Glu Leu Val Leu Phe Thr Val Phe Gly Phe Ile Glu Leu  
 195 200 205  
 Ser Thr Ile Ser Gly Val Phe Ile Ser Tyr Cys Tyr Ile Ile Leu Ser

210 215 220

Val Leu Glu Ile His Ser Ala Glu Gly Arg Phe Lys Ala Leu Ser Thr  
 225 230 235 240

Cys Thr Ser His Leu Ser Ala Val Ala Ile Phe Gln Gly Thr Leu Leu  
 245 250 255

Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys  
 260 265 270

Met Thr Ser Leu Phe Tyr Thr Leu Val Val Pro Met Leu Asn Pro Leu  
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aat ttt act gaa gtc acc atg ttt ata tta ata agc ttc aca gaa gaa 96  
 Asn Phe Thr Glu Val Thr Met Phe Ile Leu Ile Ser Phe Thr Glu Glu  
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ttt gat gtg caa gtc ttc cta ttt tta tta ttt tta gca atc tat cta 144  
 Phe Asp Val Gln Val Phe Leu Phe Leu Leu Phe Leu Ala Ile Tyr Leu  
 35 40 45

ttc act cta ata ggc aat tta ggg ctg gtt gta ccg atc att ggg gat 192  
 Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Pro Ile Ile Gly Asp  
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 Phe Trp Leu His Ser Pro Met Tyr Tyr Phe Leu Gly Val Leu Ser Phe  
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Ala	Met	Ala	Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Tyr	Asn	Pro	Leu	Leu	Tyr						
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Tyr	Val	Ala	Ser	Ile	Leu	His	Ala	Thr	Ile	His	Thr	Val	Ala	Thr	Phe						
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Gln	Ser	Ala	Glu	Gly	Arg	Arg	Lys	Val	Phe	Ser	Thr	Cys	Gly	Ala	His						
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Leu	Thr	Gly	Val	Thr	Ile	Tyr	His	Gly	Thr	Ile	Leu	Phe	Met	Tyr	Val						
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Arg	Pro	Ser	Ser	Ser	Tyr	Thr	Ser	Asp	Asn	Asp	Met	Ile	Val	Ser	Ile						
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Phe Asp Val Gln Val Phe Leu Phe Leu Leu Phe Leu Ala Ile Tyr Leu
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Phe Thr Leu Ile Gly Asn Leu Gly Leu Val Val Pro Ile Ile Gly Asp
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Phe Trp Leu His Ser Pro Met Tyr Tyr Phe Leu Gly Val Leu Ser Phe
65          70          75          80

Leu Asp Val Cys Tyr Ser Thr Val Val Thr Pro Lys Met Leu Val Asn
          85          90          95

Phe Leu Ala Lys Asn Lys Ser Ile Ser Phe Leu Gly Cys Ala Thr Gln
          100          105          110

Met Phe Leu Ala Cys Thr Phe Gly Thr Thr Glu Cys Phe Leu Leu Ala
          115          120          125

Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu Leu Tyr
          130          135          140

Ser Val Ser Met Ser Pro Arg Val Tyr Val Pro Leu Ile Thr Ala Ser
145          150          155          160

Tyr Val Ala Ser Ile Leu His Ala Thr Ile His Thr Val Ala Thr Phe
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Ser Leu Ser Phe Cys Gly Ser Asn Glu Ile Arg His Val Phe Cys Asn
          180          185          190

Met Pro Pro Leu Leu Ala Ile Ser Cys Ser Asp Thr His Val Ile Gln
          195          200          205

Leu Leu Phe Phe Tyr Phe Val Gly Ser Ile Glu Ile Val Thr Ile Leu

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245 250 255

Leu Thr Gly Val Thr Ile Tyr His Gly Thr Ile Leu Phe Met Tyr Val  
260 265 270

Arg Pro Ser Ser Ser Tyr Thr Ser Asp Asn Asp Met Ile Val Ser Ile  
275 280 285

Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu  
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Gly Leu Thr Leu Ser Glu Glu Ile Gln Met Ala Leu Phe Met Leu Phe  
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ctc ctg ata tac cta att act atg ctg ggg aat gtg ggg atg ata ttg 144  
Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu  
35 40 45

ata atc cgc ctg gac ctc cag ctt cac act ccc atg tat ttt ttc ctt 192  
Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
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act cac ctg tca ttt att gac ctc agt tac tca act gtc gtc aca cct 240  
Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro

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Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly	85	90	95	
tgc ttt gcc cag atg ttc ttt ttt gcc ttc ttg ggt act gct gaa tgt				336
Cys Phe Ala Gln Met Phe Phe Phe Ala Phe Leu Gly Thr Ala Glu Cys	100	105	110	
tac ctt ctc tcc tca atg gcc tat gat cgc tat gca gcg atc tgc agt				384
Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser	115	120	125	
cct cta cac tac aca gtt att atg tcc aaa agg ctc tgc ctc gct ctc				432
Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu	130	135	140	
atc act ggg cct tat gtg att ggc ttt ata gac tcc ttt gtc aac gtg				480
Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val	145	150	155	160
gtt tcc atg agc aga ttg cat ttc tgc gac tca aac gta att cat cac				528
Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Ile His His	165	170	175	
ttt ttc tgt gac act tcc cca att tta gct ctg tcc tgc act gat aca				576
Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr	180	185	190	
tac aac acc gaa atc ctg ata ttc att att gtt ggt tcc acc ctg atg				624
Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met	195	200	205	
gtg tcc ctt ttc aca ata tct gca tcc tat gtg ttc att ctc ttt acc				672
Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr	210	215	220	
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Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr	225	230	235	240
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Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile	245	250	255	
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Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln	260	265	270	
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Val Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu	275	280	285	
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Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asn Ala Val Ile Arg Val	290	295	300	
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Met Gln Arg Arg Gln Asp Ser Arg	305	310		

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&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 524

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Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Ile Leu  
 35 40 45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
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Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
 65 70 75 80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly  
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Cys Phe Ala Gln Met Phe Phe Phe Ala Phe Leu Gly Thr Ala Glu Cys  
 100 105 110

Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu  
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Ile Thr Gly Pro Tyr Val Ile Gly Phe Ile Asp Ser Phe Val Asn Val  
 145 150 155 160

Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Val Ile His His  
 165 170 175

Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr  
 180 185 190

Tyr Asn Thr Glu Ile Leu Ile Phe Ile Ile Val Gly Ser Thr Leu Met  
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Val Ser Leu Phe Thr Ile Ser Ala Ser Tyr Val Phe Ile Leu Phe Thr

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 Cys Val Ser His Leu Leu Gly Val Thr Ile Phe Tyr Ser Thr Leu Ile  
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 Phe Thr Tyr Leu Lys Pro Arg Lys Ser Tyr Ser Leu Gly Arg Asp Gln  
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 Val Ala Ser Val Phe Tyr Thr Ile Val Ile Pro Met Leu Asn Pro Leu  
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 Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe  
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 Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu  
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 Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
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 Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
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 Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly

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Cys	Phe	Ala	Gln	Met	Phe	Cys	Phe	Val	Phe	Leu	Gly	Thr	Ala	Glu	Cys					
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Val	Ser	Leu	Ile	Thr	Ile	Ser	Ala	Ser	Tyr	Val	Ser	Ile	Leu	Ser	Thr					
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Val	Ala	Pro	Val	Phe	Tyr	Thr	Ile	Val	Ile	Pro	Met	Leu	Asn	Pro	Leu					
			275				280					285								
att	tat	agt	ctt	aga	aac	aga	gaa	gtg	aaa	aat	gct	ctc	att	aga	gtc	912				
Ile	Tyr	Ser	Leu	Arg	Asn	Arg	Glu	Val	Lys	Asn	Ala	Leu	Ile	Arg	Val					
			290			295					300									
atg	cag	aga	aga	cag	gac	tcc	agg	tag								939				
Met	Gln	Arg	Arg	Gln	Asp	Ser	Arg													
305					310															

&lt;210&gt; 526

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 526

Met Met Gly Arg Arg Asn Asp Thr Asn Val Ala Asp Phe Ile Leu Thr  
 1 5 10 15

Gly Leu Ser Asp Ser Glu Glu Val Gln Met Ala Leu Phe Met Leu Phe  
 20 25 30

Leu Leu Ile Tyr Leu Ile Thr Met Leu Gly Asn Val Gly Met Leu Leu  
 35 40 45

Ile Ile Arg Leu Asp Leu Gln Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60

Thr His Leu Ser Phe Ile Asp Leu Ser Tyr Ser Thr Val Val Thr Pro  
 65 70 75 80

Lys Thr Leu Ala Asn Leu Leu Thr Ser Asn Tyr Ile Ser Phe Thr Gly  
 85 90 95

Cys Phe Ala Gln Met Phe Cys Phe Val Phe Leu Gly Thr Ala Glu Cys  
 100 105 110

Tyr Leu Leu Ser Ser Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Lys Arg Leu Cys Leu Ala Leu  
 130 135 140

Ile Thr Gly Pro Tyr Val Ile Gly Phe Met Asp Ser Phe Val Asn Val  
 145 150 155 160

Val Ser Met Ser Arg Leu His Phe Cys Asp Ser Asn Ile Ile His His  
 165 170 175

Phe Phe Cys Asp Thr Ser Pro Ile Leu Ala Leu Ser Cys Thr Asp Thr  
 180 185 190

Asp Asn Thr Glu Met Leu Ile Phe Ile Ile Ala Gly Ser Thr Leu Met  
 195 200 205

Val Ser Leu Ile Thr Ile Ser Ala Ser Tyr Val Ser Ile Leu Ser Thr  
 210 215 220

Ile Leu Lys Ile Asn Ser Thr Ser Gly Lys Gln Lys Ala Phe Ser Thr

<400>	527	atg	ggc	caa	cac	aat	cta	aca	gtg	cta	act	gaa	ttc	att	ctg	atg	gaa	48
Met	Gly	Gln	His	Asn	Leu	Thr	Val	Leu	Thr	Glu	Phe	Ile	Leu	Met	Glu			
1				5					10				15					
ctc	aca	agg	cgg	cct	gag	ctg	cag	att	ccc	ctt	ttt	gga	gtc	ttc	ctc		96	
Leu	Thr	Arg	Arg	Pro	Glu	Leu	Gln	Ile	Pro	Leu	Phe	Gly	Val	Phe	Leu			
			20					25					30					
gtc	atc	tac	cta	atc	aca	gtg	gtg	ggc	aac	cta	act	atg	atc	att	ttg		144	
Val	Ile	Tyr	Leu	Ile	Thr	Val	Val	Gly	Asn	Leu	Thr	Met	Ile	Ile	Leu			
		35					40					45						
acc	aaa	ctg	gac	tcc	cac	tta	cat	aca	cct	atg	tac	ttt	tct	atc	aga		192	
Thr	Lys	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Ser	Ile	Arg			
	50					55					60							
cat	ttg	gct	ttt	gtt	gat	ctt	ggt	aat	tct	act	gtc	att	tgt	ccc	aag		240	
His	Leu	Ala	Phe	Val	Asp	Leu	Gly	Asn	Ser	Thr	Val	Ile	Cys	Pro	Lys			
65					70				75					80				
gtg	ctg	gca	aat	ttt	gtt	gtg	gat	cga	aat	act	att	tcc	tat	tat	gca		288	
Val	Leu	Ala	Asn	Phe	Val	Val	Asp	Arg	Asn	Thr	Ile	Ser	Tyr	Tyr	Ala			
				85					90					95				
tgt	gct	gca	cag	ctg	gca	ttc	ttc	ctt	atg	ttc	att	atc	agt	gaa	ttt		336	
Cys	Ala	Ala	Gln	Leu	Ala	Phe	Phe	Leu	Met	Phe	Ile	Ile	Ser	Glu	Phe			

100	105	110	
ttc atc ctg tca gcc atg gcc tat gac cgc tat gtg gcc att tgt aac			384
Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn			
115	120	125	
cct ctg ctc tat tat gtt att atg tct cag cga ctg tgt cat gta ctg			432
Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu			
130	135	140	
gtg ggc att caa tat ctc tac agc aca ttt cag gct ctg atg ttc act			480
Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr			
145	150	155	160
att aag att ttt aca ttg acc ttc tgt ggc tct aat gtc atc agt cat			528
Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His			
165	170	175	
ttt tac tgt gat gat gtt cct ttg cta cct atg ctt tgc tca aat gca			576
Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala			
180	185	190	
cag gaa ata gaa ttg ttg agc ata cta ttt tct gta ttt aat ttg atc			624
Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile			
195	200	205	
tcc tcc ttt ctg ata gtc tta gtg tcc tac atg ttg att ttg tta gct			672
Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala			
210	215	220	
ata tgt caa atg cat tct gca gag ggc agg aaa aag gct ttc tcc aca			720
Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr			
225	230	235	240
tgt ggt tcc cat ttg aca gtg gtg gtt gtg ttc tat ggg tct cta ctc			768
Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu			
245	250	255	
ttc atg tac atg cag ccc aat tcc act cac ttc ttt gat act gat aaa			816
Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys			
260	265	270	
atg gct tct gtg ttt tac act tta gta atc ccc atg ctt aac cct ttg			864
Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu			
275	280	285	
att tac agc tta aga aac gaa gag gtg aaa aat gcc ttc tat aag ctc			912
Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu			
290	295	300	
ttt gag aat tga			924
Phe Glu Asn			
305			

&lt;210&gt; 528

&lt;211&gt; 307

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 528



Met Gly Gln His Asn Leu Thr Val Leu Thr Glu Phe Ile Leu Met Glu  
 1 5 10 15  
 Leu Thr Arg Arg Pro Glu Leu Gln Ile Pro Leu Phe Gly Val Phe Leu  
 20 25 30  
 Val Ile Tyr Leu Ile Thr Val Val Gly Asn Leu Thr Met Ile Ile Leu  
 35 40 45  
 Thr Lys Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Ser Ile Arg  
 50 55 60  
 His Leu Ala Phe Val Asp Leu Gly Asn Ser Thr Val Ile Cys Pro Lys  
 65 70 75 80  
 Val Leu Ala Asn Phe Val Val Asp Arg Asn Thr Ile Ser Tyr Tyr Ala  
 85 90 95  
 Cys Ala Ala Gln Leu Ala Phe Phe Leu Met Phe Ile Ile Ser Glu Phe  
 100 105 110  
 Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
 115 120 125  
 Pro Leu Leu Tyr Tyr Val Ile Met Ser Gln Arg Leu Cys His Val Leu  
 130 135 140  
 Val Gly Ile Gln Tyr Leu Tyr Ser Thr Phe Gln Ala Leu Met Phe Thr  
 145 150 155 160  
 Ile Lys Ile Phe Thr Leu Thr Phe Cys Gly Ser Asn Val Ile Ser His  
 165 170 175  
 Phe Tyr Cys Asp Asp Val Pro Leu Leu Pro Met Leu Cys Ser Asn Ala  
 180 185 190  
 Gln Glu Ile Glu Leu Leu Ser Ile Leu Phe Ser Val Phe Asn Leu Ile  
 195 200 205  
 Ser Ser Phe Leu Ile Val Leu Val Ser Tyr Met Leu Ile Leu Leu Ala  
 210 215 220  
 Ile Cys Gln Met His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Gly Ser His Leu Thr Val Val Val Val Phe Tyr Gly Ser Leu Leu

245

250

255

Phe Met Tyr Met Gln Pro Asn Ser Thr His Phe Phe Asp Thr Asp Lys  
 260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Glu Glu Val Lys Asn Ala Phe Tyr Lys Leu  
 290 295 300

Phe Glu Asn  
 305

<210> 529  
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<220>  
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 48

Met Ala Asp Asp Asn Phe Thr Val Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15

ttg aca gat cat gct gaa cta aaa gct gtg ctt ttt gtg gtg ttc ctg 96  
 Leu Thr Asp His Ala Glu Leu Lys Ala Val Leu Phe Val Val Phe Leu  
 20 25 30

gtg att tac gcc att acc ttg ttg agg aat ctg ggc atg atc ctc tta 144  
 Val Ile Tyr Ala Ile Thr Leu Leu Arg Asn Leu Gly Met Ile Leu Leu  
 35 40 45

atc caa atc acc tcc aaa ctc cac aca ccc atg tac ttt tta ctc agc 192  
 Ile Gln Ile Thr Ser Lys Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

tgt ctt tca ttt gtg gat gcc tgc tat tca tct gca att gca ccc aaa 240  
 Cys Leu Ser Phe Val Asp Ala Cys Tyr Ser Ser Ala Ile Ala Pro Lys  
 65 70 75 80

atg ctg gtg aac ctc ctg gtt gtg aag gca aca att tct ttc tct gct 288  
 Met Leu Val Asn Leu Leu Val Val Lys Ala Thr Ile Ser Phe Ser Ala  
 85 90 95

tgc atg gta cag cat ttg tgt ttc gga gtg ttc atc acc aca gaa ggc 336  
 Cys Met Val Gln His Leu Cys Phe Gly Val Phe Ile Thr Thr Glu Gly  
 100 105 110

ttc tta ctg tca gtg atg gcc tat gac cgc tat gtg gcc att gtg agt 384  
 Phe Leu Leu Ser Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Val Ser

115	120	125	
ccc ttg ctt tac act gta gcc atg tct gat aga aag tgt gtg gag ctt			432
Pro Leu Leu Tyr Thr Val Ala Met Ser Asp Arg Lys Cys Val Glu Leu			
130	135	140	
gtc aca gga tca tgg ata ggt gga ata gtt aac aca tta atc cac aca			480
Val Thr Gly Ser Trp Ile Gly Gly Ile Val Asn Thr Leu Ile His Thr			
145	150	155	160
atc agc ttg agg aga ctg tcc ttt tgt agg cta aat gct gtc agc cac			528
Ile Ser Leu Arg Arg Leu Ser Phe Cys Arg Leu Asn Ala Val Ser His			
	165	170	175
ttc ttc tgt gac att cct tca ctg cta aag ctg tca tgt tct gac acc			576
Phe Phe Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr			
	180	185	190
tcc atg aat gag ttg ttg ctg tta acc ttc tcc gga gtc att gcc atg			624
Ser Met Asn Glu Leu Leu Leu Leu Thr Phe Ser Gly Val Ile Ala Met			
	195	200	205
gcc acc ttc ttg act gtg atc att tcc tac atc ttc att gct ttt gct			672
Ala Thr Phe Leu Thr Val Ile Ile Ser Tyr Ile Phe Ile Ala Phe Ala			
210	215	220	
agc cta agg atc cac tca gca tca ggc aga cag caa gcc ttc tcc acc			720
Ser Leu Arg Ile His Ser Ala Ser Gly Arg Gln Gln Ala Phe Ser Thr			
225	230	235	240
tgt gcc tct cac ctg act gct gtg acc ata ttc tat ggt acc tta atc			768
Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ile			
	245	250	255
ttt agc tac att cag cca agc tcc cag tat ttt gtg gaa caa gag aaa			816
Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Phe Val Glu Gln Glu Lys			
	260	265	270
gtg gtt tct atg ttc tat acg cta ggg att ccc atg tta aac ctg ttg			864
Val Val Ser Met Phe Tyr Thr Leu Gly Ile Pro Met Leu Asn Leu Leu			
	275	280	285
ata cac agt ttg aga aac aag gac gta aag gag gca gtg aaa agg gcc			912
Ile His Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Lys Arg Ala			
290	295	300	
ata gaa atg aaa cat ttc ctc tgt taa			939
Ile Glu Met Lys His Phe Leu Cys			
305	310		

&lt;210&gt; 530

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 530

Met	Ala	Asp	Asp	Asn	Phe	Thr	Val	Val	Thr	Glu	Phe	Ile	Leu	Leu	Gly
1				5					10				15		

Leu Thr Asp His Ala Glu Leu Lys Ala Val Leu Phe Val Val Phe Leu  
 20 25 30

Val Ile Tyr Ala Ile Thr Leu Leu Arg Asn Leu Gly Met Ile Leu Leu  
 35 40 45

Ile Gln Ile Thr Ser Lys Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

Cys Leu Ser Phe Val Asp Ala Cys Tyr Ser Ser Ala Ile Ala Pro Lys  
 65 70 75 80

Met Leu Val Asn Leu Leu Val Val Lys Ala Thr Ile Ser Phe Ser Ala  
 85 90 95

Cys Met Val Gln His Leu Cys Phe Gly Val Phe Ile Thr Thr Glu Gly  
 100 105 110

Phe Leu Leu Ser Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Val Ser  
 115 120 125

Pro Leu Leu Tyr Thr Val Ala Met Ser Asp Arg Lys Cys Val Glu Leu  
 130 135 140

Val Thr Gly Ser Trp Ile Gly Gly Ile Val Asn Thr Leu Ile His Thr  
 145 150 155 160

Ile Ser Leu Arg Arg Leu Ser Phe Cys Arg Leu Asn Ala Val Ser His  
 165 170 175

Phe Phe Cys Asp Ile Pro Ser Leu Leu Lys Leu Ser Cys Ser Asp Thr  
 180 185 190

Ser Met Asn Glu Leu Leu Leu Leu Thr Phe Ser Gly Val Ile Ala Met  
 195 200 205

Ala Thr Phe Leu Thr Val Ile Ile Ser Tyr Ile Phe Ile Ala Phe Ala  
 210 215 220

Ser Leu Arg Ile His Ser Ala Ser Gly Arg Gln Gln Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ile  
 245 250 255

Phe Ser Tyr Ile Gln Pro Ser Ser Gln Tyr Phe Val Glu Gln Glu Lys

260

265

270

Val Val Ser Met Phe Tyr Thr Leu Gly Ile Pro Met Leu Asn Leu Leu  
 275 280 285

Ile His Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Val Lys Arg Ala  
 290 295 300

Ile Glu Met Lys His Phe Leu Cys  
 305 310

<210> 531  
 <211> 948  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(945)  
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 48

Met Leu Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly  
 1 5 10 15

ctg aca gac gac cca gtg cta gag aag atc ctg ttt ggg gtg ttc ctg 96  
 Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu  
 20 25 30

gcg atc tac cta atc aca ctg gca ggc aac ctg tgc atg atc ctg ctg 144  
 Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu  
 35 40 45

atc agg acc aat tcc caa ctg caa aca ccc atg tat ttc ttc ctt ggt 192  
 Ile Arg Thr Asn Ser Gln Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

cac ctc tcc ttt gta gac att tgc tat tct tcc aat gtt act cca aat 240  
 His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn  
 65 70 75 80

atg ctg cac aat ttc ctc tca gaa cag aag acc atc tcc tac gct gga 288  
 Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly  
 85 90 95

tgc ttc aca cag tgt ctt ctc ttc atc gcc cta gtg atc act gag ttt 336  
 Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe  
 100 105 110

tac ttc ctt gct tca atg gca ttg gat cgc tat gta gcc att tgc agc 384  
 Tyr Phe Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125

cct tta cat tac agt tcc agg atg tcc aag aac att tgc atc tct ctg 432  
 Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Ile Ser Leu

130	135	140	
gtc act gtg cct tac atg tat ggc ttc ctt aat ggg ctc tct cag aca			480
Val Thr Val Pro Tyr Met Tyr Gly Phe Leu Asn Gly Leu Ser Gln Thr			
145	150	155	160
ctg ctg acc ttt cac tta tcc ttc tgt ggc tcc ctt gaa atc aat cat			528
Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His			
	165	170	175
ttc tac tgc gct gat cct cct ctt atc atg ctg gcc tgc tct gac acc			576
Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr			
	180	185	190
cgt gtc aaa aag atg gca atg ttt gta gtt gca ggc ttt act ctc tca			624
Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Thr Leu Ser			
	195	200	205
agc tct ctc ttc atc att ctt ctg tcc tat ctt ttc att ttt gca gcg			672
Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala			
	210	215	220
atc ttc agg atc cgt tct gct gaa ggc agg cac aaa gcc ttt tct acg			720
Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr			
	225	230	235
tgt gct tcc cac ctg aca ata gtc act ttg ttt tat gga acc ctc ttc			768
Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe			
	245	250	255
tgc atg tac gta agg cct cca tca gag aag tct gta gag gag tcc aaa			816
Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys			
	260	265	270
ata att gca gtc ttt tat act ttt ttg agc cca atg ctg aac cca ttg			864
Ile Ile Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu			
	275	280	285
atc tat agc cta cgg aac aga gat gta atc ctt gcc ata caa caa atg			912
Ile Tyr Ser Leu Arg Asn Arg Asp Val Ile Leu Ala Ile Gln Gln Met			
	290	295	300
att agg gga aaa tcc ttt tgt aaa att gca gtt tag			948
Ile Arg Gly Lys Ser Phe Cys Lys Ile Ala Val			
	305	310	315
<210> 532			
<211> 315			
<212> PRT			
<213> Homo Sapiens			
<400> 532			
Met Leu Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly			
1	5	10	15
Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu			
	20	25	30

Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu  
 35 40 45

Ile Arg Thr Asn Ser Gln Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly  
 50 55 60

His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn  
 65 70 75 80

Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly  
 85 90 95

Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe  
 100 105 110

Tyr Phe Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser  
 115 120 125

Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Ile Ser Leu  
 130 135 140

Val Thr Val Pro Tyr Met Tyr Gly Phe Leu Asn Gly Leu Ser Gln Thr  
 145 150 155 160

Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His  
 165 170 175

Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr  
 180 185 190

Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Thr Leu Ser  
 195 200 205

Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala  
 210 215 220

Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe  
 245 250 255

Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys  
 260 265 270

Ile Ile Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu

275

280

285

Ile Tyr Ser Leu Arg Asn Arg Asp Val Ile Leu Ala Ile Gln Gln Met  
 290 295 300

Ile Arg Gly Lys Ser Phe Cys Lys Ile Ala Val  
 305 310 315

<210> 533  
 <211> 936  
 <212> DNA  
 <213> Homo Sapiens

<220>  
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 <222> (1)..(933)  
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<400> 533atg gtg tgg gaa aac cag acc ttc aac tcc atc ttc atc ctg ctg gga  
 48

Met Val Trp Glu Asn Gln Thr Phe Asn Ser Ile Phe Ile Leu Leu Gly  
 1 5 10 15

atc ttc aat cac agt ccc acc cac acc ttc ctt ttt tct ctg gtc ctg 96  
 Ile Phe Asn His Ser Pro Thr His Thr Phe Leu Phe Ser Leu Val Leu  
 20 25 30

ggc atc ttc tca ctg gca ttg atg gaa aat att tcc atg gtt ctc ctc 144  
 Gly Ile Phe Ser Leu Ala Leu Met Glu Asn Ile Ser Met Val Leu Leu  
 35 40 45

atc tac ata gag aaa cag ctc cac acc ccc atg tac ttc ctc ctc agt 192  
 Ile Tyr Ile Glu Lys Gln Leu His Thr Pro Met Tyr Phe Leu Leu Ser  
 50 55 60

caa ctg tcc ctt atg gac ctc atg ctc atc tgc acc act cta ccc aag 240  
 Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Leu Pro Lys  
 65 70 75 80

atg atc ttc agc tac ttg tct ggg aag aaa tct atc tct ctg gca ggt 288  
 Met Ile Phe Ser Tyr Leu Ser Gly Lys Lys Ser Ile Ser Leu Ala Gly  
 85 90 95

tgt gga act cag ata ttc ttc tat gtg tcc ctg ctt gga gct gaa tgt 336  
 Cys Gly Thr Gln Ile Phe Phe Tyr Val Ser Leu Leu Gly Ala Glu Cys  
 100 105 110

ttc ttg ttg gct gtc atg gct tat gac cgc tat gtg gct ata tgt cac 384  
 Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
 115 120 125

cct ctt cag tac acc atc ctc atg aat ccg aaa ctc tgt gtc ttc atg 432  
 Pro Leu Gln Tyr Thr Ile Leu Met Asn Pro Lys Leu Cys Val Phe Met  
 130 135 140

act gtt gct tcc tgg acc ttg ggg tct ctt gat ggg atc ata gtg ctt 480  
 Thr Val Ala Ser Trp Thr Leu Gly Ser Leu Asp Gly Ile Ile Val Leu



145	150	155	160	
gca gct gtc ctg tca ttt tct tac tgc agc tct ctg gaa att cat cac				528
Ala Ala Val Leu Ser Phe Ser Tyr Cys Ser Ser Leu Glu Ile His His				
	165	170	175	
ttt ttc tgt gat gtt gct gcc ctt tta cct cta tcc tgc aca gaa aca				576
Phe Phe Cys Asp Val Ala Ala Leu Leu Pro Leu Ser Cys Thr Glu Thr				
	180	185	190	
tct gca ttt gaa aga cta ctt gtc att tgt tgt gtg gta atg cta atc				624
Ser Ala Phe Glu Arg Leu Leu Val Ile Cys Cys Val Val Met Leu Ile				
	195	200	205	
ttt cca gtt tca gtt atc ata ctt tcc tat tcc cat gtc ctt cga gcc				672
Phe Pro Val Ser Val Ile Ile Leu Ser Tyr Ser His Val Leu Arg Ala				
	210	215	220	
gtc atc cac atg ggc tct ggg gaa agt cgt cgc aag gcc ttc act acc				720
Val Ile His Met Gly Ser Gly Glu Ser Arg Arg Lys Ala Phe Thr Thr				
	225	230	235	240
tgc tcc tcc cac ctg tct gtg gtc gga ctc tac tac ggt gct gct atg				768
Cys Ser Ser His Leu Ser Val Val Gly Leu Tyr Tyr Gly Ala Ala Met				
	245	250	255	
ttc atg tac atg aga cca gct tct aaa cat acg cca gac cag gac aag				816
Phe Met Tyr Met Arg Pro Ala Ser Lys His Thr Pro Asp Gln Asp Lys				
	260	265	270	
atg gtg tcg gcc ttc tac act att ctc acc cct atg ctg aac cct ctc				864
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Ile Tyr Ser Leu Arg Asn Lys Glu Val Phe Arg Ala Leu Gln Lys Val				
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Gly Ile Phe Ser Leu Ala Leu Met Glu Asn Ile Ser Met Val Leu Leu				
	35	40	45	

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Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Leu Pro Lys  
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Met Ile Phe Ser Tyr Leu Ser Gly Lys Lys Ser Ile Ser Leu Ala Gly  
 85 90 95

Cys Gly Thr Gln Ile Phe Phe Tyr Val Ser Leu Leu Gly Ala Glu Cys  
 100 105 110

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His  
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Pro Leu Gln Tyr Thr Ile Leu Met Asn Pro Lys Leu Cys Val Phe Met  
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 145 150 155 160

Ala Ala Val Leu Ser Phe Ser Tyr Cys Ser Ser Leu Glu Ile His His  
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Phe Phe Cys Asp Val Ala Ala Leu Leu Pro Leu Ser Cys Thr Glu Thr  
 180 185 190

Ser Ala Phe Glu Arg Leu Leu Val Ile Cys Cys Val Val Met Leu Ile  
 195 200 205

Phe Pro Val Ser Val Ile Ile Leu Ser Tyr Ser His Val Leu Arg Ala  
 210 215 220

Val Ile His Met Gly Ser Gly Glu Ser Arg Arg Lys Ala Phe Thr Thr  
 225 230 235 240

Cys Ser Ser His Leu Ser Val Val Gly Leu Tyr Tyr Gly Ala Ala Met  
 245 250 255

Phe Met Tyr Met Arg Pro Ala Ser Lys His Thr Pro Asp Gln Asp Lys  
 260 265 270

Met Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu  
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Ser Ile Phe Glu Lys Ile Leu Phe Ile Cys Cys Ile Val Met Ile Val																				
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Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu																				
275 280 285																				
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Ile Tyr Ser Leu Arg Asn Lys Glu Val Thr Arg Ala Phe Met Lys Ile																				
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 35 40 45

Ile Tyr Leu Asp Thr Gln Leu His Thr Pro Met Tyr Leu Leu Leu Ser  
 50 55 60

Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Val Pro Lys  
 65 70 75 80

Met Ala Phe Asn Tyr Leu Ser Gly Ser Lys Ser Ile Ser Met Ala Gly  
 85 90 95

Cys Ala Thr Gln Ile Phe Phe Tyr Thr Ser Leu Leu Gly Ser Glu Cys  
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Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr Thr Ala Ile Cys His  
 115 120 125

Pro Leu Arg Tyr Thr Asn Leu Met Ser Pro Lys Ile Cys Gly Leu Met  
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 145 150 155 160

Val Ala Thr Phe Ser Phe Ser Tyr Cys Gly Ser Arg Glu Ile Ala His  
 165 170 175

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Ser Ile Phe Glu Lys Ile Leu Phe Ile Cys Cys Ile Val Met Ile Val  
 195 200 205

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 210 215 220

Val Ile His Met Gly Ser Gly Glu Gly Arg Arg Lys Ala Phe Thr Thr  
 225 230 235 240

Cys Ser Ser His Leu Leu Val Val Gly Met Tyr Tyr Gly Ala Ala Leu  
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Phe Met Tyr Ile Arg Pro Thr Ser Asp Arg Ser Pro Thr Gln Asp Lys  
 260 265 270

Met Val Ser Val Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu  
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Val Leu Thr Ser Leu Phe Ser Asn Ala Leu Met Ile Leu Leu Ile His			
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Ser Ser Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Ala  
                     145                    150                    155                    160

Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe  
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Cys Glu Ala Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val  
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Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro  
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Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val  
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Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr  
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Ser Val Arg Asn Ser Glu Val Lys Glu Ala Leu Lys Arg Trp Leu Gly  
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 Cys Ala Thr Gln Ile Phe Phe Tyr Ile Ser Leu Leu Gly Ser Glu Cys  
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 115 120 125  
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 180 185 190

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 225 230 235 240

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 Cys Ser Ser His Leu Met Val Val Gly Met Tyr Tyr Gly Ala Gly Leu  
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 260 265 270

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 275 280 285

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 50 55 60

Gln Leu Ser Leu Met Asp Leu Met Leu Ile Cys Thr Thr Val Pro Lys  
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Met Ala Phe Asn Tyr Leu Ser Gly Ser Lys Ser Ile Ser Met Ala Gly  
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Cys Ala Thr Gln Ile Phe Phe Tyr Ile Ser Leu Leu Gly Ser Glu Cys  
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 115 120 125

Pro Leu Arg Tyr Thr Asn Leu Met Arg Pro Lys Ile Cys Gly Leu Met  
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Thr Ala Phe Ser Trp Ile Leu Gly Ser Thr Asp Gly Ile Ile Asp Ala  
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Val Ala Thr Phe Ser Phe Ser Tyr Cys Gly Ser Arg Glu Ile Ala His  
 165 170 175

Phe Cys Cys Asp Phe Pro Ser Leu Leu Ile Leu Ser Cys Asn Asp Thr  
 180 185 190

Ser Ile Phe Glu Glu Val Ile Phe Ile Cys Cys Ile Val Met Leu Val  
 195 200 205

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 210 215 220

Val Ile His Met Gly Ser Gly Glu Gly Arg Arg Lys Ala Phe Thr Thr  
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Phe Met Cys Ile Gln Pro Thr Ser His His Ser Pro Met Gln Asp Lys  
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          35          40          45

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Trp Asp His Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu
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65          70          75          80

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acc ctg agc ttc cca tat tgt ggt gca cac gag atc gat cac ttc ttc      528
Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe
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Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val
          180          185          190

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His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser
    225                      230                      235                      240

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Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val
    260                      265                      270

tca gcc ttc tat act atg ttc acc cct tta cta aac ccc ctc atc tac      864
Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr
    275                      280                      285

agt gtg aag aac agt gag gtg aag gga gcc ctg aaa cgg tgg ctg ggg      912
Ser Val Lys Asn Ser Glu Val Lys Gly Ala Leu Lys Arg Trp Leu Gly
    290                      295                      300

acg tgt gta aac ata aaa cac cag caa aat gag gcc cac agg tca aga      960
Thr Cys Val Asn Ile Lys His Gln Gln Asn Glu Ala His Arg Ser Arg
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<213> Homo Sapiens

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Val Leu Thr Ser Leu Phe Gly Asn Ser Leu Met Ile Leu Leu Ile His
    35                      40                      45

Trp Asp His Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu
    50                      55                      60

Ser Leu Met Asp Met Met Leu Val Ser Thr Thr Val Pro Lys Met Ala
    65                      70                      75                      80

Ala Asp Tyr Leu Thr Gly Ser Lys Ala Ile Ser Arg Ala Gly Cys Gly
    85                      90                      95

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Val Gln Ile Phe Phe Leu Pro Thr Leu Gly Gly Gly Glu Cys Phe Leu  
 100 105 110

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys His Pro Leu  
 115 120 125

Arg Tyr Pro Thr Leu Met Ser Trp Gln Leu Cys Leu Arg Met Thr Met  
 130 135 140

Ser Cys Trp Leu Leu Gly Ala Ala Asp Gly Leu Leu Gln Ala Val Val  
 145 150 155 160

Thr Leu Ser Phe Pro Tyr Cys Gly Ala His Glu Ile Asp His Phe Phe  
 165 170 175

Cys Glu Thr Pro Val Leu Val Arg Leu Ala Cys Ala Asp Thr Ser Val  
 180 185 190

Phe Glu Asn Ala Met Tyr Ile Cys Cys Val Leu Met Leu Leu Val Pro  
 195 200 205

Phe Ser Leu Ile Leu Ser Ser Tyr Gly Leu Ile Leu Ala Ala Val Leu  
 210 215 220

His Met Arg Ser Thr Glu Ala Arg Lys Lys Ala Phe Ala Thr Cys Ser  
 225 230 235 240

Ser His Val Ala Val Val Gly Leu Phe Tyr Gly Ala Ala Ile Phe Thr  
 245 250 255

Tyr Met Arg Pro Lys Ser His Arg Ser Thr Asn His Asp Lys Val Val  
 260 265 270

Ser Ala Phe Tyr Thr Met Phe Thr Pro Leu Leu Asn Pro Leu Ile Tyr  
 275 280 285

Ser Val Lys Asn Ser Glu Val Lys Gly Ala Leu Lys Arg Trp Leu Gly  
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Thr Cys Val Asn Ile Lys His Gln Gln Asn Glu Ala His Arg Ser Arg  
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<210> 543

<211> 933

<212> DNA

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&lt;222&gt; (1)..(930)

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Leu Ser Glu Gln Pro Glu Leu Gln Leu Arg Leu Phe Leu Phe Leu  
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gga atc tgt gtg gtc aca gtg gtg ggc aac ttg ggc atg atc aca ctg 144  
Gly Ile Cys Val Val Thr Val Val Gly Asn Leu Gly Met Ile Thr Leu  
35 40 45

att ggg ctc agt tct cac ctg cac aca cct atg tac tat ttc ctc agc 192  
Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Ser  
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agt ctg tcc ttc att gac ttc tgc cat tcc act gtc att acc cct aag 240  
Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys  
65 70 75 80

atg ctg gtg aac ttt gcg aca gag aag aac atc atc tcc tac cct gaa 288  
Met Leu Val Asn Phe Ala Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu  
85 90 95

tgc atg gct cag ctc tat tta ttc agt att ttt gct att gca gag tgt 336  
Cys Met Ala Gln Leu Tyr Leu Phe Ser Ile Phe Ala Ile Ala Glu Cys  
100 105 110

cac atg ttg gct gca atg gcg tat gac tgt tat gtt gcc atc tgc agc 384  
His Met Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser  
115 120 125

ccc ttg ctg tac aat gtc atc atg tcc tat cac cgc tgc ttc tgg ctc 432  
Pro Leu Leu Tyr Asn Val Ile Met Ser Tyr His Arg Cys Phe Trp Leu  
130 135 140

aca gtg gga gtt tac att tta ggc atc ctt gga tct aca att cat acc 480  
Thr Val Gly Val Tyr Ile Leu Gly Ile Leu Gly Ser Thr Ile His Thr  
145 150 155 160

agt ttt atg ttg aga ctc ttt ttg tgc aag act aat gtg att aac cat 528  
Ser Phe Met Leu Arg Leu Phe Leu Cys Lys Thr Asn Val Ile Asn His  
165 170 175

tat ttt tgt gat ctt ttc cct ctc ttg ggg ctc tcc tgc tcc agc acc 576  
Tyr Phe Cys Asp Leu Phe Pro Leu Leu Gly Leu Ser Cys Ser Ser Thr  
180 185 190

tac atc aat gaa tta ctg gtt ctg gtc ttg agt gca ttt aac atc ctg 624  
Tyr Ile Asn Glu Leu Leu Val Leu Val Leu Ser Ala Phe Asn Ile Leu  
195 200 205

atg cct gcc tta acc atc ctt gct tct tac atc ttt atc att gcc agc 672  
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Ile Leu Arg Ile His Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr			
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Cys Ser Ser His Ile Leu Ala Val Ala Val Phe Phe Gly Ser Ala Ala			
	245	250	255
ttc atg tac ctg cag cca tca tct gtc agc tcc atg gac cag agg aaa			816
Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Arg Lys			
	260	265	270
gtg tcg tct gtg ttt tat act act att gtg ccc atg ctg aac ccc ctg			864
Val Ser Ser Val Phe Tyr Thr Thr Ile Val Pro Met Leu Asn Pro Leu			
	275	280	285
atc tac agc ctg agg aat aaa gat gtc aaa ctt gcc gtg aag aaa att			912
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Leu Ala Val Lys Lys Ile			
	290	295	300
ctg cat cag aca gca tgt taa			933
Leu His Gln Thr Ala Cys			
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	20	25	30
Gly Ile Cys Val Val Thr Val Val Gly Asn Leu Gly Met Ile Thr Leu			
	35	40	45
Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Ser			
	50	55	60
Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys			
65	70	75	80
Met Leu Val Asn Phe Ala Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu			
	85	90	95
Cys Met Ala Gln Leu Tyr Leu Phe Ser Ile Phe Ala Ile Ala Glu Cys			
	100	105	110



His Met Leu Ala Ala Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser  
 115 120 125

Pro Leu Leu Tyr Asn Val Ile Met Ser Tyr His Arg Cys Phe Trp Leu  
 130 135 140

Thr Val Gly Val Tyr Ile Leu Gly Ile Leu Gly Ser Thr Ile His Thr  
 145 150 155 160

Ser Phe Met Leu Arg Leu Phe Leu Cys Lys Thr Asn Val Ile Asn His  
 165 170 175

Tyr Phe Cys Asp Leu Phe Pro Leu Leu Gly Leu Ser Cys Ser Ser Thr  
 180 185 190

Tyr Ile Asn Glu Leu Leu Val Leu Val Leu Ser Ala Phe Asn Ile Leu  
 195 200 205

Met Pro Ala Leu Thr Ile Leu Ala Ser Tyr Ile Phe Ile Ile Ala Ser  
 210 215 220

Ile Leu Arg Ile His Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ser His Ile Leu Ala Val Ala Val Phe Phe Gly Ser Ala Ala  
 245 250 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Arg Lys  
 260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Ile Val Pro Met Leu Asn Pro Leu  
 275 280 285

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Leu His Gln Thr Ala Cys  
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<210> 545  
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 Gly Ile Tyr Val Val Thr Val Leu Gly Asn Leu Gly Met Ile Thr Leu  
 35 40 45  
 att ggg ctc agt tct cac ctg cac aca cct atg tac tgt ttc ctc agc 192  
 Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Cys Phe Leu Ser  
 50 55 60  
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 Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys  
 65 70 75 80  
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 Met Leu Val Asn Phe Val Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu  
 85 90 95  
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 Cys Met Thr Gln Leu Tyr Phe Phe Leu Val Phe Ala Ile Ala Glu Cys  
 100 105 110  
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 His Met Leu Ala Ala Met Ala Tyr Asp Gly Tyr Val Ala Ile Cys Ser  
 115 120 125  
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 Pro Leu Leu Tyr Ser Ile Ile Ile Ser Asn Lys Ala Cys Phe Ser Leu  
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 145 150 155 160  
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 Gly Cys Met Phe Arg Val Gln Phe Cys Lys Phe Asp Val Ile Asn His  
 165 170 175  
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 Tyr Phe Cys Asp Leu Ile Ser Ile Leu Lys Leu Ser Cys Ser Ser Thr  
 180 185 190  
 tac att aat gag tta ctg att tta atc ttt agt gga att aac atc ctt 624  
 Tyr Ile Asn Glu Leu Leu Ile Leu Ile Phe Ser Gly Ile Asn Ile Leu  
 195 200 205  
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 210 215 220  
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 Ile Leu Arg Ile Arg Tyr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr

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Cys Ser Ser His Ile Ser Ala Val Ser Val Phe Phe Gly Ser Ala Ala				
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ttc atg tac ctg cag cca tca tct gtc agc tcc atg gac cag ggg aaa				816
Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys				
	260	265	270	
gtg tcc tct gtg ttt tat act att gtt gtg ccc atg ctg aac ccc ctg				864
Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Leu				
	275	280	285	
atc tac agc ctg agg aat aaa gat gtc cac gtt gcc ctg aag aaa acg				912
Ile Tyr Ser Leu Arg Asn Lys Asp Val His Val Ala Leu Lys Lys Thr				
	290	295	300	
cta ggg aaa aga aca ttc tta tga				936
Leu Gly Lys Arg Thr Phe Leu				
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Gly Ile Tyr Val Val Thr Val Leu Gly Asn Leu Gly Met Ile Thr Leu				
	35	40	45	
Ile Gly Leu Ser Ser His Leu His Thr Pro Met Tyr Cys Phe Leu Ser				
	50	55	60	
Ser Leu Ser Phe Ile Asp Phe Cys His Ser Thr Val Ile Thr Pro Lys				
	65	70	75	80
Met Leu Val Asn Phe Val Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu				
	85	90	95	
Cys Met Thr Gln Leu Tyr Phe Phe Leu Val Phe Ala Ile Ala Glu Cys				
	100	105	110	
His Met Leu Ala Ala Met Ala Tyr Asp Gly Tyr Val Ala Ile Cys Ser				
	115	120	125	

Pro Leu Leu Tyr Ser Ile Ile Ile Ser Asn Lys Ala Cys Phe Ser Leu  
 130 135 140

Ile Leu Val Val Tyr Val Ile Gly Leu Ile Cys Ala Ser Ala His Ile  
 145 150 155 160

Gly Cys Met Phe Arg Val Gln Phe Cys Lys Phe Asp Val Ile Asn His  
 165 170 175

Tyr Phe Cys Asp Leu Ile Ser Ile Leu Lys Leu Ser Cys Ser Ser Thr  
 180 185 190

Tyr Ile Asn Glu Leu Leu Ile Leu Ile Phe Ser Gly Ile Asn Ile Leu  
 195 200 205

Val Pro Ser Leu Thr Ile Leu Ser Ser Tyr Ile Phe Ile Ile Ala Ser  
 210 215 220

Ile Leu Arg Ile Arg Tyr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ser Ser His Ile Ser Ala Val Ser Val Phe Phe Gly Ser Ala Ala  
 245 250 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys  
 260 265 270

Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val His Val Ala Leu Lys Lys Thr  
 290 295 300

Leu Gly Lys Arg Thr Phe Leu  
 305 310

<210> 547  
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<220>  
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 <222> (1)..(903)  
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Val	Gly	Val	Leu	Gly	Ser	Phe	Ser	Val	Leu	Leu	His	Tyr	Leu	Ser	Phe	
			20					25					30			
tac	tgc	act	ggg	tgc	agg	tta	agg	tcc	aca	gat	ttg	att	gtt	aag	cac	144
Tyr	Cys	Thr	Gly	Cys	Arg	Leu	Arg	Ser	Thr	Asp	Leu	Ile	Val	Lys	His	
		35					40					45				
ctg	att	gta	gcc	aac	ttc	tta	gct	ctc	cgc	tgt	aaa	gga	gtc	ccc	cag	192
Leu	Ile	Val	Ala	Asn	Phe	Leu	Ala	Leu	Arg	Cys	Lys	Gly	Val	Pro	Gln	
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Thr	Met	Ala	Ala	Phe	Gly	Val	Arg	Tyr	Phe	Leu	Asn	Ala	Leu	Gly	Cys	
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aaa	ctt	gtt	ttc	tat	ctc	cat	aga	gtg	ggc	agg	gga	gtg	tcc	att	ggc	288
Lys	Leu	Val	Phe	Tyr	Leu	His	Arg	Val	Gly	Arg	Gly	Val	Ser	Ile	Gly	
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acc	acc	tgc	ctc	ttg	agt	gtc	ttc	cag	gtg	atc	acg	gtc	agc	tcc	agg	336
Thr	Thr	Cys	Leu	Leu	Ser	Val	Phe	Gln	Val	Ile	Thr	Val	Ser	Ser	Arg	
			100					105					110			
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Lys	Ser	Arg	Trp	Ala	Lys	Leu	Lys	Glu	Lys	Ala	Pro	Lys	His	Val	Gly	
		115				120						125				
ttt	tct	gtt	ctc	ctg	tgc	tgg	atc	gtg	tgc	atg	ttg	gta	aac	atc	atc	432
Phe	Ser	Val	Leu	Leu	Cys	Trp	Ile	Val	Cys	Met	Leu	Val	Asn	Ile	Ile	
	130					135					140					
ttt	ccc	atg	tat	gtg	act	ggc	aaa	tgg	aac	tac	aca	aac	atc	aca	gtg	480
Phe	Pro	Met	Tyr	Val	Thr	Gly	Lys	Trp	Asn	Tyr	Thr	Asn	Ile	Thr	Val	
145					150				155					160		
aac	gag	gat	ttg	gga	tac	tgt	tct	ggg	gga	ggc	aac	aac	aaa	atc	gca	528
Asn	Glu	Asp	Leu	Gly	Tyr	Cys	Ser	Gly	Gly	Gly	Asn	Asn	Lys	Ile	Ala	
			165					170					175			
cag	aca	ctg	cgt	gca	atg	ttg	tta	tca	ttc	cct	gat	gtg	ttg	tgt	ctg	576
Gln	Thr	Leu	Arg	Ala	Met	Leu	Leu	Ser	Phe	Pro	Asp	Val	Leu	Cys	Leu	
			180					185					190			
ggg	ctc	atg	ctc	tgg	gtc	agc	agc	tcc	atg	gtt	tgc	ata	ctg	cac	agg	624
Gly	Leu	Met	Leu	Trp	Val	Ser	Ser	Ser	Met	Val	Cys	Ile	Leu	His	Arg	
	195					200						205				
cac	aag	cag	cgg	gtc	cag	cac	att	gat	agg	agc	aat	ctc	tcc	ccc	aga	672
His	Lys	Gln	Arg	Val	Gln	His	Ile	Asp	Arg	Ser	Asn	Leu	Ser	Pro	Arg	
	210					215					220					
gcc	tcc	cca	gag	aac	aga	gct	acg	cag	agc	atc	ctc	atc	ctg	gtg	agc	720
Ala	Ser	Pro	Glu	Asn	Arg	Ala	Thr	Gln	Ser	Ile	Leu	Ile	Leu	Val	Ser	
225					230				235					240		
acc	ttt	gtg	tct	tct	tac	act	ctc	tcc	tgc	ctt	ttc	caa	gtt	tgt	atg	768
Thr	Phe	Val	Ser	Ser	Tyr	Thr	Leu	Ser	Cys	Leu	Phe	Gln	Val	Cys	Met	

818

Asn Glu Asp Leu Gly Tyr Cys Ser Gly Gly Gly Asn Asn Lys Ile Ala  
165 170 175

Gln Thr Leu Arg Ala Met Leu Leu Ser Phe Pro Asp Val Leu Cys Leu  
180 185 190

Gly Leu Met Leu Trp Val Ser Ser Ser Met Val Cys Ile Leu His Arg  
195 200 205

His Lys Gln Arg Val Gln His Ile Asp Arg Ser Asn Leu Ser Pro Arg  
210 215 220

Ala Ser Pro Glu Asn Arg Ala Thr Gln Ser Ile Leu Ile Leu Val Ser  
225 230 235 240

Thr Phe Val Ser Ser Tyr Thr Leu Ser Cys Leu Phe Gln Val Cys Met  
245 250 255

Ala Leu Leu Asp Asn Pro Asn Ser Leu Leu Val Asn Thr Ser Ala Leu  
260 265 270

Met Ser Val Cys Phe Pro Thr Leu Ser Pro Phe Val Leu Met Ser Cys  
275 280 285

Asp Pro Ser Val Tyr Arg Phe Cys Phe Ala Trp Lys Arg  
290 295 300

